



Commission of the European Communities

Evaluation of the BRITE/EURAM Programme (1989-1992) – (areas 1 to 4)



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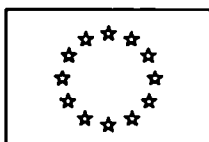
**Evaluation of
the BRITE/EURAM Programme
(1989-1992) — (areas 1 to 4)**

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PRESENTATION

This report is presented in four main sections :

INTRODUCTION	This section includes the terms of reference and working procedure of the Panel.
EXECUTIVE SUMMARY	This section summarises the key findings and recommendations and is presented with translations into the official Community languages.
FINDINGS	In each of the three constituent sections, the findings are presented first, followed by detailed comments.
ANNEXES	This section contains detailed supporting information, data and analyses. It also includes a glossary of the acronyms used (Annex 4.10) and definitions for categories of research (Annex 4.6).

The recommendations and content of both this final evaluation report and the interim report which was issued in June 1992, were unanimously agreed by all Panel members.

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1. INTRODUCTION

1.1 Authority

The authority for the evaluation Panel is contained in the endorsement by the Council of Ministers of the Commission's communication "A community Plan of Action relating to the evaluation of Community research and development" (OJ N° C2 of 6 January 1987, p.1) and in the Council Decision endorsing the BRITE/EURAM Programme (OJ N° L98 of 14 March 1989, pp. 18 and 19), especially art. 4 and annex III of this decision.

1.2 Terms of reference

The Panel's detailed terms of reference are contained in Annex 4.1. The main requirements were to assess:

- the quality and practical relevance of the results including commercial development and exploitation, and possible spin-offs;
- the scientific and technical achievements;
- the Programme's contribution to the social and economic development of the Community;
- the benefits resulting from the implementation of the Programme at the Community level (Community added value);
- the management of the programme.

The Panel presented an interim report to the Commission, as specified in the Terms of Reference, at the end of June 1992.

1.3 Composition of the Panel

Panel members were selected by the Commission from a variety of backgrounds : industrial managers, research scientists from industry and university, industrial consultants and senior officials.

- Prof. Otto H. SCHIELE (Chairman)
President AIF (German Federation of Industrial Research Associations)
Former Executive Director R&D and Engineering KSB A.G Frankenthal, Germany
- Dr. Angelo AIRAGHI (Deputy Chairman)
Senior Vice President Finmeccanica, Italy
- Mr. Félix H.J. BLOYAERT
Former Central Research Director of Solvay S.A., Belgium
- Prof. J. Carlos JARILLO
Professor, Institute of Management Development International (IMD), Lausanne, Switzerland
- Dr. Anssi KÄRNÄ
Director Technology Projects, The Finnish Pulp & Paper Research Institute (KCL), Finland

- Mr. Michel LAVALOU
President of the University of Compiègne,
Former Executive Director for R&D, Rhone - Poulenc, France
- Mr. Louis R.K. PAUL
Former Head, Research Co-ordination and Planning
Shell International Research Mij, The Hague, Netherlands
- Mr. Leonard J. WEAVER
Chairman, Jones and Shipman plc, UK

1.4 Working procedures

The Panel conducted the investigation as follows :

- a. It held ten one or two-day plenary meetings between April 1992 and February 1993. These meetings included detailed interviews with :
 - The BRITE/EURAM project management team.
 - Senior officials from the BRITE/EURAM Programme.
 - Consultants involved in the BRITE/EURAM Programme.
- b. A survey was carried out by the consultants BETA (University of Strasbourg) on the basis of an extended series of in-depth interviews with some 180 firms representing all the partners involved in a sample of 50 BRITE, EURAM and BRITE/EURAM projects. BETA presented a detailed analysis of the findings to the Panel (see Annex 4.3).

In addition, the Panel was grateful to have had the benefit of detailed presentations of several surveys on BRITE, EURAM, BRITE/EURAM and some important EC research upon competitiveness (cf Annex 4.5: BRITE/EURAM-VALUE, Fitzpatrick, Linné, PREST)

- c. In addition to the above, members of the Panel individually questioned a wide cross-section of people concerned with BRITE/EURAM numbering some 100 in total, (see Annex 4.4), including :
 - Senior officials in national ministries.
 - Industrial managers.
 - Leaders of projects not selected.
 - Academics.
 - Project participants.

Panel members reported on these interviews at the plenary sessions.

d. **Expenditure**

Expenditure in time by the Panel including the plenary meetings totalled more than 300 days. The overall costs amounted to about 300 000 Ecus, which is within the initial budget.

2. EXECUTIVE SUMMARY

The Executive Summary is set out under 4 headings:

- Summary of the BRITE/EURAM Programme.
- Achievements of the BRITE/EURAM Programme.
- Emerging issues and potential problems.
- Recommendations.

2.1 Summary of the BRITE/EURAM Programme

The principal objective of the BRITE/EURAM Programme 1989-92 is to enhance the competitive position of the Community's manufacturing industries. Objectives include trans-frontier collaboration in strategic industrial research and the transfer of technology across Community frontiers and between sectors, particularly those with a high number of SMEs.

The Programme covers 5 areas, regrouped into two parts:

- Areas 1 to 4 covering work on: advanced materials technologies, design methodology and assurance for products and processes, application of manufacturing technologies, technologies of manufacturing processes.
- Area 5 : Aeronautics. (A separate panel of independent external experts has been entrusted with the evaluation of this two-year pilot action, to comply with article 4 of the Council Decision. Their results are reported separately in an earlier report: Research evaluation - Report No. 46 EUR 13524).

The total Budget allocation is 499.5 MECU of which 440 MECU has been committed to 368 projects.

The extent and type of participation in this Programme is tabulated below:

Member states	B	DK	F	D	G	IR	I	L	NL	P	E	UK	total
location of co-ordinators	21	16	71	67	6	8	40	3	27	7	16	86	368
location of participants	118	67	379	377	65	49	198	5	102	78	132	364	1934

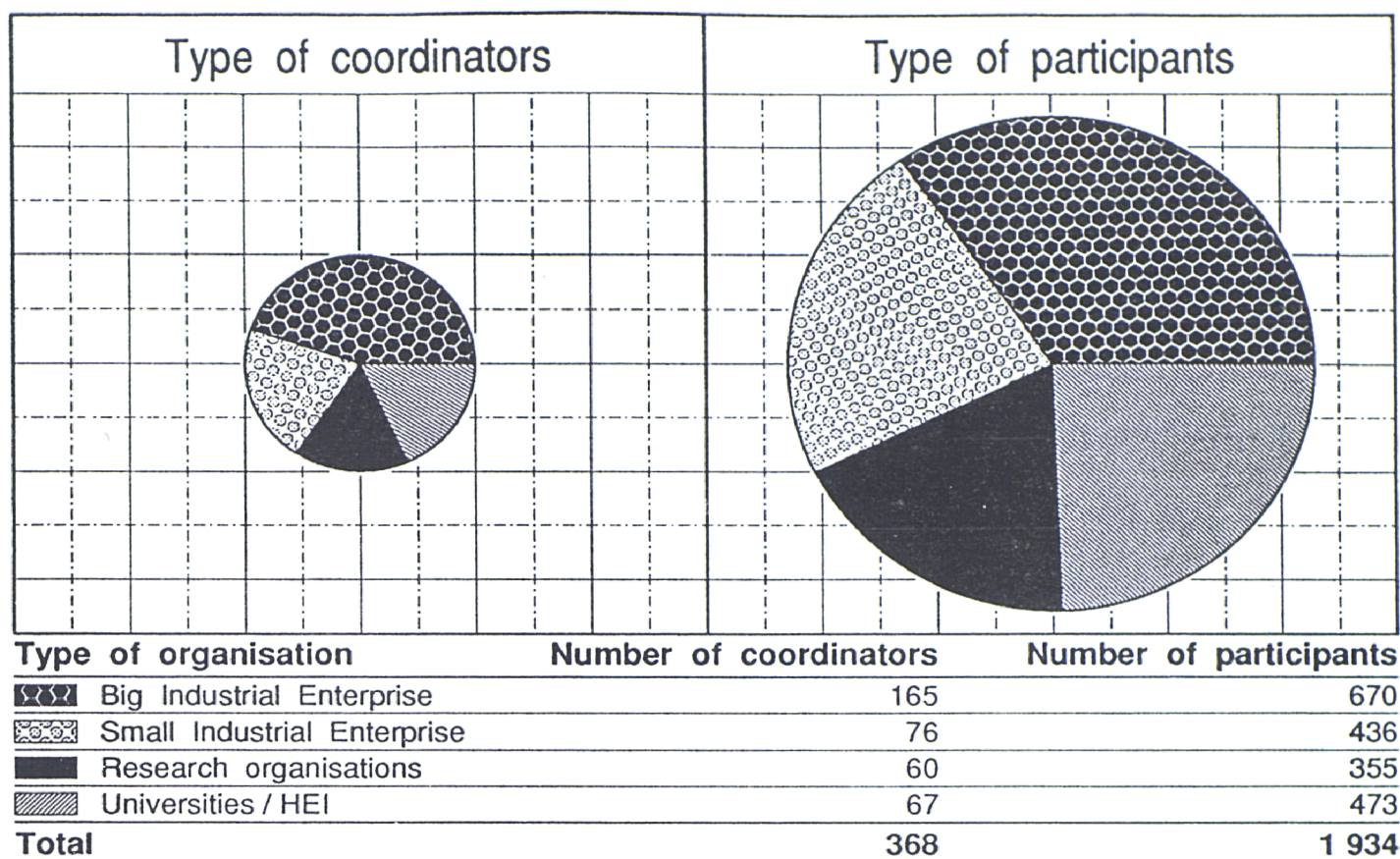


Fig. 1: Distribution of participants

CEC / XII / EG/0 ENP/442 / 08.02.93

Some other interesting features about the Programme are summarised as follows:

Date of Council Decision: 14.03.89
 Selection of Projects: 29.06.89
 Issue of first Contract: October 1989
 Issue of last Contract: October 1990
 Typical size of Contracts: 2.3 MECU
 Typical Duration: 36 Months
 Number of Conferences: 50/year
 Nr of Scientific Papers: 180/year

The implementation of the Programme has been characterised by the following main steps or elements:

- Identification of priority themes in consultation with industry, taking into account the strategic interests of both the EC and the European companies.
- Two calls for proposals (1989 - 1990).
- Project selection (from 1304 proposals, 368 were selected with 55% industrial participants -including 22% SMEs - 24% universities and 21% research centres).

Beside the Shared Cost Actions representing ca. 425.0 MECU for areas 1 to 4, by the end of 1990, and ca. 65.0 MECU for area 5, several coordination actions have been conducted successfully i.e., Concerted European Action on Magnets (CEAM), European Materials Research Society (EMRS) and SMEs oriented actions. The above analysis, however, does not include participation of the EFTA countries.

In addition to systematic involvement of advisory bodies (CAN, IRDAC), several studies have been contracted externally (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick) to help the management exercise effective direction and control of the Programme.

2.2 Achievements of the BRITE/EURAM Programme

The objective of the BRITE/EURAM Programme was to increase the competitiveness of European industry. This objective has been largely met by a combination of direct and indirect benefits accruing from the Programme.

2.2.1 Direct results

BRITE/EURAM can be considered to be successful in that:

- a high percentage of completed projects (more than 70%), have 'fully' or 'mainly' achieved their technological objectives.
- technological success is expected to translate into an improvement of the participating companies' competitive position in about 75% of cases which, again, is a high figure for pre-competitive R&D.

In this report, there is clear evidence that BRITE/EURAM projects will produce for the company involved a significant return on the investments made.

2.2.2 Indirect results

BRITE/EURAM has provided participating companies, particularly SMEs, other benefits which also increase their competitiveness. Among these are:

- Creation of a valued network of contacts. (More than 80% of all participating companies plan to continue cooperating with their project partners in the future, once the project is over.)
- Organisational learning. (Such developments have taken place in more than two thirds of companies.)
- International exposure which, in the case of many SME's, has proved beneficial, and would not have been achieved outside the project.
- An increasing networking effect between universities and industries throughout Europe.

Finally the introduction of CRAFT has been a further important element in helping to increase the competitiveness of Europe's SMEs.

2.2.3 Cohesion

BRITE/EURAM has helped increase Europe's cohesion by facilitating international partnership, with all its benefits. It is highly unlikely that those benefits would have been attained if the research had been funded by purely national institutes. Less favoured regions are well represented in the projects, although they tend to be represented more by universities than by commercial enterprises.

2.2.4 Management of the Programme

The Panel have found the management of the Programme to be both professional and highly motivated. This can be seen in the efforts made in publicising the Programme, and making the procedures for participants more straightforward. Its success can be gauged by the continuous increase in participants and by the fact that the United States government, in a similar programme, is closely following the procedures implemented by BRITE/EURAM.

Over its life, the Programme is being well tracked and controlled, with independent studies being commissioned to help solve the problems that may arise. Nevertheless the Panel have identified some areas where possible improvements could be made.

2.2.5 Implementation of Recommendations from previous Evaluations

The two previous panels charged with evaluation of the BRITE and EURAM programmes provided a list of recommendations in order to improve the impact of the R&D activities on the Community manufacturing industry. The recommendations addressed three different aspects of the programmes.

- a) the strategic approach
- b) the modalities
- c) the management.

From the strategic point of view the BRITE panel recommended merging the two programmes (BRITE and EURAM) into one more market-oriented activity with the aim of facilitating the application of advanced technologies to all sectors of manufacturing industries. Those suggestions have been fully implemented by the creation of a BRITE/EURAM Programme in which more emphasis has been given to the industrial objectives of the research and to the impact of the results on competitiveness. The introduction of new rules and criteria for selection which take greater account of exploitation potential have reinforced this approach.

Regarding the modalities, there were 3 major suggestions; an annual call for proposals, larger SME participation and clearer definition of pre-competitive research. These have been fully implemented. As far as SME participation is concerned, two special initiatives have been launched. These are, Feasibility Awards scheme for SMEs wishing to prove their capability and the viability of their research ideas, and CRAFT actions for SMEs (three so far) interested in research results but without a real research capability.

Concerning the management aspects of the Programme, the panels expressed the necessity to simplify the procedures and suggested the Commission explore the scope for decentralised management as a means of maintaining only a small team of Scientific Officials. Accordingly, the Commission has introduced more simplified rules for negotiations and

launched a pilot action for the technical monitoring of projects. Today more than 200 projects are monitored by external Project Technical Auditors (PTA).

In the Table which is reproduced as Annex 4.7, the most important recommendations have been listed along with the respective actions adopted by the Commission. These are grouped according to the different phases of the Programme.

2.2.6 General Conclusions

The Panel are confident in concluding that the BRITE/EURAM Programme has been a substantial success. There has been a high percentage of projects achieving their technical and scientific milestones and the Commission's management of the activity has been judged, in most areas, to be both efficient and enthusiastic. This impression was confirmed by the extensive range of contacts and interviews with government representatives and project participants made in the course of the evaluation. Many have argued that BRITE/EURAM is one of the most successful Commission R&D programmes and the Panel accept this viewpoint.

2.3 Emerging Issues and Potential Problems

BRITE/EURAM has been changed, in accordance with the Single European Act objectives and the recommendations of previous evaluation reports, further towards 'near-market' research. This change together with the sustained promotional effort has generated a strong increase in the number of applications.

These two issues, the shift towards markets and the increasing number of applications, have consequences which may undermine the continued success of the Programme. If the situation remained unchanged a possible crisis in Programme management could be foreseen as officials were forced to deal with an 'avalanche' of proposals. This would become even more difficult when access to the Community programme is enlarged, and unchecked this could reinforce the movement towards near market research. Thus BRITE/EURAM would be brought more into competition with EUREKA than it is today. Development on these lines without a substantial increase in funds, would result in a very high rejection rate. - perhaps in excess of 95% - which could have undesirable consequences.

It might be argued that some of the basic imbalances are due to a gradual change of focus of the Programme's mandate. The Programme may be trying to meet simultaneously, a number of objectives which, although individually sound, are to some extent incompatible. For example:

- the Programme is aimed at fostering 'pre-competitive research' but faces understandable political pressure to show immediate economic benefits.
- the Programme is supporting SME projects to an increasing extent, but should not be too close to the market which is, however, of primary interest to the majority of SMEs.
- the Programme is supposed to contribute towards European cohesion, yet it has to accommodate this with the mandate of selecting projects on technical and scientific merit alone.

- even with growing support for SMEs, the Programme can make only a very tiny contribution to developing the technological skills of European SMEs. The 436 participants in BRITE/EURAM represent about 0.025% of an estimated total population of 1.7 million SMEs.
- there appears to be mounting pressure from some Member States for 'juste retour' (the concept where receipt of funds for project support in a Member country matches their national contribution to the programme). Even tacit acceptance of such a concept by the Community could generate severe conflicts in the selection process and would inevitably undermine the quality of future research projects.

There is, therefore, a strong case for an in depth review of these issues and potential problems for BRITE/EURAM, and the following recommendations are submitted as a logical foundation for such a review.

2.4 Recommendations

The Panel have chosen to separate recommendations into two sections - policy and organisational. Policy recommendations are concerned with substantive revisions of the Programme structure and purpose; organisational recommendations deal with incremental improvements to specific aspects of Programme management and implementation.

2.4.1 Policy Recommendations

1. In view of the increasing success of BRITE/EURAM, the growing number of proposals and demand for resources, the Commission may find itself forced to consider increasing the allocation of funds simply to keep the acceptance rate at a viable level. Even in such an event, the Panel propose a substantial revision of the Programme's key features, which at the same time provides the means to satisfy subsidiarity (see Annex 4.6) criteria. Furthermore, a rational assessment of the means of supporting competitiveness of European industry suggests that the focus of future BRITE/EURAM should move back to a pre-competitive phase. This is despite strong counter views from many industrial participants, especially SMEs. Amongst a number of possible options for change the Panel recommend that:
 - the number of research fields be reduced.
 - increased emphasis be given to generic technologies; a greater share of funding be allocated to strategic, as opposed to purely applied research; (see Annex 4.6 for definitions).
 - stricter application of pre-competitiveness criteria be applied.
 - flexible levels of funding support be established.

It must be stressed that BRITE/EURAM is a programme devoted to support the research effort of industry, and the presence in the research team of both producers and users of the technologies to be developed, must be encouraged.

2. If, as suggested above, future EC funded research in the fields covered by BRITE/EURAM was to be more strategic in nature and focused on generic technologies, and taking account also of the difficulties of SME involvement in the existing BRITE/EURAM Programme, the Panel feel that the needs of SMEs would best be served by a separate initiative. For this purpose, the Commission should explore ways to extend the scope of the existing CRAFT programme. In addition, the Commission should establish an administrative structure which both promotes co-operative research amongst SMEs at a national level and is able to assist companies, and national organisations when required, in promoting SME involvement in a dedicated Community programme.
3. The current 5 MECU limit on the size of projects should be re-examined with a view to defining rules for accepting larger projects.
4. The Panel considered a number of aspects concerning the relationship between BRITE/EURAM and other programmes and recommends:
 - continuous monitoring of the co-ordination between BRITE/EURAM and parallel activities such as ESPRIT. Moving CIM into BRITE/EURAM would, in the view of the Panel, be an important step towards removing potential co-ordination problems.
 - successful BRITE/EURAM projects with potential for further development should be earmarked as it may assist participants seeking further finance, particularly in the case of an application to EUREKA.
 - the relationship between BRITE/EURAM and the VALUE Programme requires better definition, taking proper account of subsidiarity issues. The Commission should examine ways to strengthen the role of VALUE as a central point of reference for the Member States. The responsibility for dissemination of information on project results, and the promotion and funding of downstream activities such as prototype development should be left to individual governments.
5. The Commission should strongly resist any pressures which result from Member countries application of 'juste retour' principles in their development of national participation in BRITE/EURAM or its successors.
6. The protocols regarding publication of project results must be reviewed. While supporting the view that reporting of publicly funded research must not be restricted, the Panel recommend that due to the industrial confidentiality of some results, industrial participants be given the right, in agreement with fellow project participants, to request a delay in publication for a strictly limited period. Such a restriction should cover periods of no more than 18 months. Further, the Panel welcome any Commission initiative aimed at supporting the patenting of project results. The Commission should retain the right to publish summaries of research in progress.

2.4.2 Organisational Recommendations

1. The existing approach of periodic timed Calls for Proposals is an artificial constraint on the smooth development of project ideas and an unnecessary burden on BRITE/EURAM project staff. The Panel recommend this should, within the limits of the existing budgets, be replaced with an 'Open Call'.

2. The Commission should consider further measures to transfer aspects of Programme management to contracted independent organisations or people, while still retaining the authority for final decision making. In this respect, one possibility might be the decentralisation of the responsibility for preparation and negotiation of project contracts with appropriate funding made available.
 3. The promotion of the Programme through advertising and other measures should be better correlated to the different degrees of Programme awareness in different countries. Furthermore, the overall expenses should be in a reasonable relation to the available Programme funds. More publicity will, in the present circumstances, result in a higher rejection rate.
 4. The guidelines for management officials and, where provided, training in project management should receive priority both to maintain a balanced high level of quality and a common standard of neutrality and independence in project intervention. The Panel recommend that such guidelines be made available to project participants.
 5. Commission rules governing payment of project finance should be re-examined with regard to allowing participants to allocate relevant costs, incurred from the time of project selection.
 6. Many industrial partners, particularly SMEs, are reluctant to assume the role of Prime Contractor because of the management effort involved. Therefore, the Commission should consider whether it is necessary to increase the financial compensation attached to this role.
 7. The Commission should improve the situation regarding delays in project payments.
 8. If for technical or financial reasons the overall rejection rate rises higher than is at present the case, a two step approach in the selection of proposals would be desirable. One possible solution already under examination by the BRITE/EURAM management could be the right of potential proposers to submit to the Commission an outline of the research project so that a first level reaction could be given.
-

RESUME

Resumeet består af 4 afsnit:

- . Resume af BRITE/EURAM-programmet.
- . BRITE/EURAM-programmets resultater.
- . Vanskeligheder og problemer.
- . Henstillinger.

2.1 Resume af BRITE/EURAM-programmet

Det vigtigste formål med BRITE/EURAM-programmet for 1989-1992 er at styrke EF's industriers konkurrencedygtighed. Blandt målsætningerne er grænseoverskridende samarbejde om strategisk industriforskning og overførsel af teknologi over EF's grænser og mellem sektorerne indbyrdes, det gælder især sektorer med et stort antal små og mellemstore virksomheder.

Programmet omfatter 5 områder, som kan deles i to grupper:

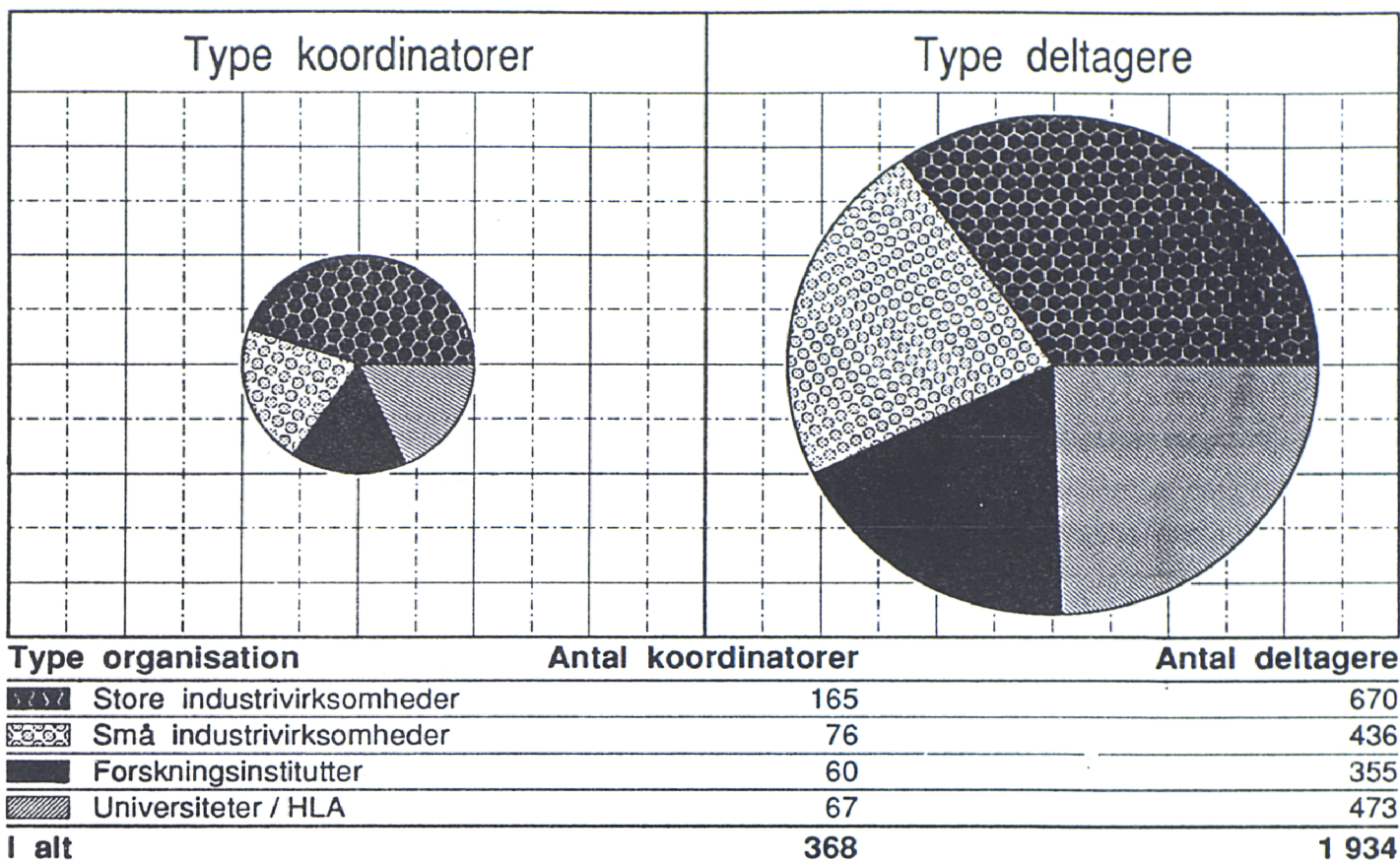
- Område 1 til 4 omfatter: avanceret materialeteknologi, designmetodologi og produkt- og processikkerhed, anvendelse af produktionsteknologi og teknologier til produktionsprocesser.
- Område 5: Aeronautik. (Et særligt panel af uafhængige eksperter har fået overdraget evalueringen af denne to-årige pilotaktion, så artikel 4 i Rådets beslutning kan overholdes. Der er afgivet særskilt beretning om deres resultater i en tidligere rapport: Forskningsevaluering - rapport nr. 46 EUR 13524).

Det samlede budget er på 499,5 mio ECU, og heraf er 440 mio ECU blevet afsat til 368 projekter.

Deltagelsens omfang og type fremgår af følgende tabel:

Medlems- stater	B	DK	F	D	G	IR	I	L	NL	P	E	UK	
Koordinatorer	21	16	71	67	6	8	40	3	27	7	16	86	368
Deltagere	118	67	379	377	65	49	198	5	102	78	132	364	1934





Figur 1: Deltagernes fordeling

CCE - CEC - KEG / XII / EG#0 DKP# 442 / 08.06.93

Andre interessante oplysninger om programmet:

Dato for Rådets beslutning: 14.3.1989
 Udvælgelse af projekter: 29.6.1989
 Afslutning af første kontrakt: oktober 1989
 Afslutning af sidste kontrakt: oktober 1990
 Typisk kontraktomfang: 2,3 mio ECU
 Typisk varighed: 36 måneder
 Antal konferencer: 50 pr. år
 Antal videnskabelige artikler: 180 pr. år

Programmet er blevet gennemført i følgende hovedetaper:

- Opstilling af prioriterede emner i samråd med industrien og under hensyntagen til EF's og de europæiske virksomheders strategiske interesser.
- To indkaldelser af forslag (1989 - 1990).
- Udvælgelse af projekter (af 1 304 forslag udvalgte 368 med 55% deltagere fra industrien - herunder 22% små og mellemstore virksomheder - 24% universiteter og 21% forskningscentre).

Foruden aktioner med omkostningsdeling, som ved udgangen af 1990 tegnede sig for ca. 425,0 mio ECU i område 1-4 og ca. 65,0 mio ECU i område 5, er der blevet udført flere vellykkede samordnede aktioner, f.eks. den samordnede europæiske aktion for magneter (CEAM), Den Europæiske Materiale Forskningssammenslutning (EMRS) og aktioner med sigte på små og mellemstore virksomheder. Der er imidlertid ikke her taget hensyn til EFTA-landenes deltagelse.

Ud over at rådgivende organer (CAN, IRDAC) systematisk er blevet inddraget, er en lang række undersøgelser blevet foretaget eksternt på kontrakt (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick) for at støtte effektiv ledelse og kontrol af programmet.

2.2 BRITE/EURAM-programmets resultater

BRITE/EURAM-programmets formål var at øge den europæiske industris konkurrencedygtighed. Dette formål er stort set blevet opfyldt ved den kombination af direkte og indirekte fordele, programmet har medført.

2.2.1 Direkte resultater

BRITE/EURAM kan betragtes som vellykket, idet:

- . en stor del af projekterne (over 70%) "fuldt ud" eller "stort set" har opfyldt deres målsætninger;
- . de teknologiske resultater i ca. 75% af tilfældene forventes at føre til en forbedring af de deltagende virksomheders konkurrencedygtighed, og det er et højt tal for prækonkurrencemæssig forskning og udvikling.

Denne rapport giver et klart bevis på, at BRITE/EURAM-projekterne vil give de involverede virksomheder et betydeligt afkast af investeringerne.

2.2.2 Indirekte resultater

BRITE/EURAM har givet de deltagende virksomheder, især de små og mellemstore virksomheder, andre fordele, som også vil øge deres konkurrencedygtighed. Blandt disse er:

- . Oprettelse af et netværk af kontakter. (Over 80% af samtlige deltagende virksomheder overvejer at fortsætte samarbejdet med deres projektpartnere, når projektet er afsluttet.)
- . Organisationsforbedring. (Sådanne udviklinger har fundet sted i mere end 2/3 af virksomhederne.)
- . International synliggørelse, som har været til fordel for mange små og mellemstore virksomheder og ikke ville have kunnet lade sig gøre uden for projektet.
- . Øget netværkseffekt mellem universiteter og industrier i hele Europa.

Endelige har indførelsen af CRAFT været endnu et vigtigt element, som har bidraget til at øge de små og mellemstore virksomheders konkurrencedygtighed.

2.2.3 Samhørighed

BRITE/EURAM har medvirket til at øge sammenhørigheden i Europa ved at fremme internationalt partnerskab med alle de fordele, det indebærer. Det er temmelig usandsynligt, at disse fordele ville have kunnet opnås, hvis forskningen udelukkende var blevet finansieret af nationale institutter. De ugunstigt stillede regioner er pænt repræsenteret i projekterne, selv om de i højere grad repræsenteres af universiteter end af virksomheder.

2.2.4 Programmets ledelse

Panelet har fundet programmets ledelse både professionel og motiveret. Det ses af den indsats, som er blevet gjort for at reklamere for programmet og forenkle procedurerne for deltagerne. Dets succes kan måles efter det voksende deltagerantal og efter, at USA's regering i et lignende program nøje følger BRITE/EURAM's procedurer.

Programmet er i hele sin løbetid blevet fortrinligt overvåget og kontrolleret, og der er blevet iværksat uafhængige undersøgelser for at løse de problemer, som eventuelt kan dukke op. Alligevel kan panelet pege på en række områder, hvor der kan foretages forbedringer.

2.2.5 Gennemførelse af henstillinger fra tidligere evalueringer

De to paneler, som tidligere evaluerede BRITE og EURAM-programmet, opstillede en række henstillinger for at forbedre forsknings- og udviklingsaktiviteternes virkning på EF's industri. Disse henstillinger gjaldt tre forskellige sider af programmerne.

- a) den strategiske fremgangsmåde
- b) gennemførelsen
- c) ledelsen.

Med hensyn til den strategiske fremgangsmåde anbefalede BRITE-panelet, at de to programmer (BRITE og EURAM) blev slået sammen til en enkelt, mere markedsorienteret aktivitet, hvis formål skulle være at fremme brugen af avancerede teknologier i alle industri sektorer. Disse forslag blev realiseret med iværksættelsen af BRITE/EURAM-programmet, der lægger større vægt på at give forskningen industrielle målsætninger og på forskningsresultaternes betydning for konkurrencedygtigheden. Denne fremgangsmåde blev styrket, da der blev indført nye regler og udvælgelseskriterier, som tager større hensyn til udnyttelse af mulighederne.

Hvad gennemførelsen angår, blev der fremsat tre vigtige forslag: årlig indkaldelse af forslag, større involvering af små og mellemstore virksomheder og en klarere definition af prækonkurrencemæssig forskning. Også disse forslag er blevet virkeliggjort. For at inddrage de små og mellemstore virksomheder blev der taget 2 særlige initiativer. Det drejer sig om gennemførlighedstilskud til små og mellemstore virksomheder, der ønsker at bevise deres kapacitet og deres forskningsideers bæredygtighed, og CRAFT-aktionerne for små og mellemstore virksomheder (foreløbig tre), som er interesseret i forskningsresultater, men ikke har nogen egentlig forskningskapacitet.

Med hensyn til programmets ledelse pegede panelet på, at det var nødvendigt at forenkle procedurerne, og foreslog Kommissionen at undersøge mulighederne for at decentralisere ledelsen og kun beholde en lille gruppe videnskabelige

tjenestemænd. Kommissionen har derfor indført forenklede regler for forhandling og iværksat en pilotaktion for teknisk overvågning af projekterne. I dag overvåges mere end 200 projekter af eksterne tekniske kontrollanter.

I tabellen i bilag 4.7 er de vigtigste henstillinger blevet opstillet sammen med de aktioner, Kommissionen har vedtaget. Aktionerne er grupperet i overensstemmelse med programmets forskellige faser.

2.2.6 Almindelige konklusioner

Panelet kan med sikker overbevisning konkludere, at BRITE/EURAM-programmet har været en stor succes. En stor del af projekterne har nået deres tekniske og videnskabelige mål, og Kommissionens ledelse har på de fleste områder været både effektiv og entusiastisk. Dette indtryk blev bekræftet af en lang række kontakter og samtaler med regeringsrepræsentanter og projektdeltagere under evalueringen. Mange af dem hævder, at BRITE/EURAM er et af Kommissionens mest vellykkede forsknings- og udviklingsprogrammer, og panelet kan kun tilslutte sig dette synspunkt.

2.3 Vanskeligheder og problemer

BRITE/EURAM er i overensstemmelse med Den Europæiske Fælles Akt og henstillingerne i tidligere evalueringsrapporter blevet ændret i retning af forskning med nærmere tilknytning til markedet. Denne ændring og en ihærdig agitation har betydet et stærkt voksende antal ansøgninger.

Disse to forhold, omstillingen til markedsorientering og det voksende antal ansøgninger, har følger, som kan undergrave programmets succes. Hvis denne situation ikke ændrer sig, kan der forventes en krise i programledelsen, da den kommer til at skulle behandle en sand lavine af forslag.

Vanskelighederne vil blive større med øget adgang til at deltage i programmet, og denne tendens vil, hvis den får lov at udvikle sig, øge forskningens tilbøjelighed til at søge nærmere tilknytning til markedet. BRITE/EURAM vil således komme til at konkurrere mere med EUREKA, end det gør i dag. En sådan udvikling vil uden en betydelig forøgelse af midlerne føre til en meget høj afvisningsprocent – måske over 95% – hvad der kan få uheldige følger.

Man kan hævde, at denne mangel på balance i nogen grad skyldes, at programmets tyngdepunkt er blevet flyttet. Programmet søger muligvis samtidig at opfylde en række forskellige formål, som er udmærkede hver for sig, men til en vis grad er uforenelige. F.eks.:

- . Programmet tager sigte på at fremme prækonkurrencemæssig forskning, men står over for et forståeligt politisk pres for at skabe øjeblikkelige økonomiske resultater.
- . Programmet støtter i stadig større grad projekter fra små og mellemstore virksomheder, men bør ikke knytte sig for tæt til markedet, som på den anden side er de fleste små og mellemstore virksomheders hovedinteresse.
- . Programmet skal bidrage til samhørigheden i Europa, men skal forene denne opgave med kravet om, at projekterne skal udvælges alene efter teknisk og videnskabelig værdi.

- . trods voksende støtte til små og mellemstore virksomheder kan programmet kun yde et meget lille bidrag til udvikling af de små og mellemstore virksomheders teknologiske kunnen. De 436 deltagere i BRITE/EURAM udgør kun ca. 0,025% af de små og mellemstore virksomheders samlede antal, som anslås til 1,7 mio.
- . Det ser ud til, at der fra nogle medlemsstaters side er et voksende pres til fordel for "juste retour" (dvs., at midlerne til projekter i en bestemt medlemsstat svarer til denne medlemsstats bidrag til programmet). Selv en stiltiende accept af denne tanke ville sætte udvælgelsesprocessen i en alvorlig konflikt og uundgåeligt undergrave de fremtidige forskningsprojekters kvalitet.

Meget taler derfor for en indgående behandling af disse vanskeligheder og problemer i BRITE/EURAM, og henstillingerne i det følgende fremsættes derfor som et logisk grundlag for en sådan behandling.

2.4 Henstillinger

Panelet har valgt at dele henstillingerne i to grupper – de politiske og de organisatoriske. De politiske henstillinger gælder ændringer af programmets struktur og formål. De organisatoriske henstillinger drejer sig om forbedringer af bestemte sider af programmets ledelse og udførelse.

2.4.1 Politiske henstillinger

1. På grund af BRITE/EURAM voksende succes, det øgede antal forslag og det stigende krav om midler kan Kommissionen se sig nødsaget til at skulle bevillige flere midler alene for at kunne holde godkendelsesprocenten på et bæredygtigt niveau. Selv om dette skulle indtræffe, foreslår panelet, at der foretages en gennemgribende ændring af programmets vigtigste kendetegn, og at der samtidig skabes mulighed for at respektere nærhedsprincippet (se bilag 4.6). Desuden kan det ud fra en rationel vurdering af mulighederne for at støtte den europæiske industris konkurrencedygtighed foreslås, at BRITE/EURAM's tyngdepunkt flyttes tilbage til det prækonkurrencemæssige stadium. Det sker ganske vist på trods af, at mange deltagere fra industrien, ikke mindst de små og mellemstore virksomheder, går stærkt ind for det modsatte. Blandt en række mulige ændringer foreslår panelet:

- . at antallet af forskningsemner indskrænkes
- . at der lægges øget vægt på generiske teknologier, at der gives flere midler til strategisk, i modsætning til anvendt forskning (se definitionerne i bilag 4.6)
- . at kriteriet prækonkurrencemæssig overholdes strengere
- . at der indføres fleksible støtteniveauer.

Det må understreges, at BRITE/EURAM har til formål at støtte industriens forskning, og både producenter og brugere af den teknologi, der skal udvikles, må derfor tilskyndes til at deltage på forskningsholdet.

2. Hvis EF's finansiering af forskning inden for de områder, der omfattes af BRITE/EURAM, således som foreslået bliver mere strategisk for fremtiden og lægger større vægt på generiske teknologier, mener panelet, at de små og mellemstore virksomheder, når man tager deres vanskeligheder inden for det nuværende BRITE/EURAM-program i betragtning, vil være bedre tjent med et særskilt initiativ. Kommissionen bør derfor undersøge mulighederne for at udvide det nuværende CRAFT-program. Desuden bør Kommissionen indføre en administrativ struktur, som både fremmer forskningssamarbejdet mellem små og mellemstore virksomheder på nationalt plan og kan hjælpe virksomhederne, og eventuelt også de nationale institutioner, ved at fremme deres deltagelse i et EF-program.
3. Den nuværende grænse for projektstørrelse, som er på 5 mio. ECU, bør tages op til overvejelse med henblik på at fastsætte regler for godkendelse af større projekter.
4. Panelet har desuden behandlet forholdet mellem BRITE/EURAM og andre programmer og anbefaler:
 - . at koordineringen af BRITE/EURAM og parallelle aktiviteter som ESPRIT stadig overvåges. Hvis CIM overflyttes til BRITE/EURAM, vil det efter panelets opfattelse betyde, at en vigtig risiko for koordinationsproblemer ryddes af vejen
 - . at vellykkede BRITE/EURAM-projekter, som rummer muligheder for yderligere udvikling, får et særligt kendetegn, da det kan hjælpe deltagerne, når de skal søge yderligere finansiering, ikke mindst i forbindelse med ansøgninger til EUREKA
 - . at forholdet mellem BRITE/EURAM og VALUE-programmet defineres bedre, og at der samtidig tages hensyn til nærhedsprincippet. Kommissionen bør undersøge, hvordan VALUE's rolle som centralt referencepunkt for medlemsstaterne kan styrkes. Ansvar for videreformidling af oplysninger om projektsresultaterne og finansiering af aktiviteterne i de senere udviklingsled, f.eks. udvikling af prototyper, bør overlades til de enkelte regeringer.
5. Kommissionen bør på det bestemteste afvise ethvert pres, som skyldes, at medlemsstaterne benytter princippet "juste retour" i forbindelse med den nationale deltagelse i BRITE/EURAM-programmet eller dets efterfølger.
6. Reglerne for offentliggørelse af projektsresultater må tages op. Panelet går ind for det synspunkt, at offentliggørelse af offentligt finansierede forskningsresultater ikke skal være begrænset, men da nogle af resultaterne er fortrolige mener panelet alligevel, at de deltagende industrivirksomheder, skal have ret til efter aftale med de øvrige deltagere at anmode om, at offentliggørelsen udsættes i et strengt begrænset tidsrum. En sådan udsættelse bør højst være 18 måneder. Panelet stiller sig desuden positivt til ethvert initiativ fra Kommissionen, som går ud på at støtte patentering af projektsresultaterne. Kommissionen bør beholde retten til at offentliggøre oversigter over igangværende forskning.

2.4.2 Organisatoriske henstillinger

1. Den nuværende metode, hvorefter der med regelmæssige mellemrum

foretages indkaldelse af forslag, er en kunstig hindring for gnidningsløs udvikling af projektideerne og en unødvendig byrde for BRITE/EURAM's personale. Panelet anbefaler, at denne metode, inden for det nuværende budgets grænser, afløses af en "åben indkaldelse".

2. Kommissionen bør overveje at overføre dele af programledelsen til kontrakter med uafhængige foretagender eller personer, men selv beholde myndigheden til at træffe de endelige afgørelser. En af mulighederne i så henseende kan være at decentralisere ansvaret for udarbejdelse og afslutning af projektkontrakter og stille passende finansiering til rådighed.
3. Agitering for programmet ved hjælp af annoncering eller andre foranstaltninger bør i højere grad svare til kendskabet til programmet i de forskellige lande. Desuden bør de samlede udgifter stå i et rimeligt forhold til programmet midler. Mere reklame vil under de nuværende omstændigheder give en højere afvisningsprocent.
4. Retningslinjerne for ledelsens personale og for uddannelse i projektledelse, hvor dette er relevant, bør prioriteres for at bevare et højt kvalitetsniveau og en fælles standard for neutralitet og objektivitet, når det gælder projektfremdrift. Panelet anbefaler, at projektdeltagerne får meddelelse om disse retningslinjer.
5. Kommissionens regler for projektf finansiering bør tages op til fornyet behandling, så deltagerne kan få tilladelse til at overføre relevante omkostninger, som de har pådraget sig fra projektets udvælgelsestidspunkt.
6. Mange deltagende virksomheder, navnlig de små og mellemstore, er uvillige til at påtage sig rollen som hovedkontrahent på grund af det administrationsarbejde, det indebærer. Kommissionen bør derfor overveje, om ikke den finansielle kompensation for denne opgave bør forøges.
7. Kommissionen bør forbedre situationen, med hensyn til forsinkede udbetalinger til projekterne.
8. Hvis den samlede afvisningsprocent af tekniske eller økonomiske grunde bliver større end på nuværende tidspunkt, vil det være hensigtsmæssigt at foretage udvælgelsen i to etaper. En mulig løsning, som allerede undersøges af BRITE/EURAM's ledelse, kan være, at ansøgerne får ret til at sende Kommissionen et resume af forskningsprojektet, så de kan få en første reaktion.

2. ZUSAMMENFASSUNG

Die Zusammenfassung gliedert sich in vier Teile:

- . Zusammenfassung des Programms BRITE/EURAM
- . Ergebnisse
- . Künftige Themen und mögliche Probleme
- . Empfehlungen

2.1 Zusammenfassung des Programms BRITE/EURAM

Hauptziel des Programms BRITE/EURAM (1989-1992) ist eine bessere Wettbewerbssituation der Fertigungsindustrie in der Gemeinschaft. Dahin sollen führen: grenzüberschreitende Zusammenarbeit bei der strategischen industriellen Forschung und Technologietransfer über Gemeinschaftsgrenzen und zwischen Wirtschaftszweigen, insbesondere solchen mit einer hohen Anzahl von KMU.

Das Programm umfaßt fünf Bereiche:

- 1 - 4: Arbeiten über fortgeschrittene Werkstofftechnologien, Auslegungsmethodologie und Sicherung von Erzeugnissen und Verfahren, Einsatz von Fertigungstechnologien, Technologien für Fertigungsverfahren.
- 5: Luftfahrt; ein eigenes Gremium unabhängiger Sachverständiger wurde gemäß Artikel 4 der Entscheidung des Rates mit der Bewertung dieser zweijährigen Pilotaktion beauftragt. Die Ergebnisse wurden bereits in einem eigenen Bericht niedergelegt: Forschungsbewertung, Bericht Nr. 46 EUR 13524.

Insgesamt wurden im Rahmen des Haushaltsplans 499,5 Mio. ECU bereitgestellt, wovon 440 Mio. ECU 368 Projekten zugewiesen wurden.

Umfang und Art der Beteiligung an dem Programm sind aus nachstehender Tabelle ersichtlich:

Mitglied- staaten	B	DK	F	D	G	IR	I	L	NL	P	E	UK	
Koordinatoren	21	16	71	67	6	8	40	3	27	7	16	86	368
Teilnehmer	118	67	379	377	65	49	198	5	102	78	132	364	1934

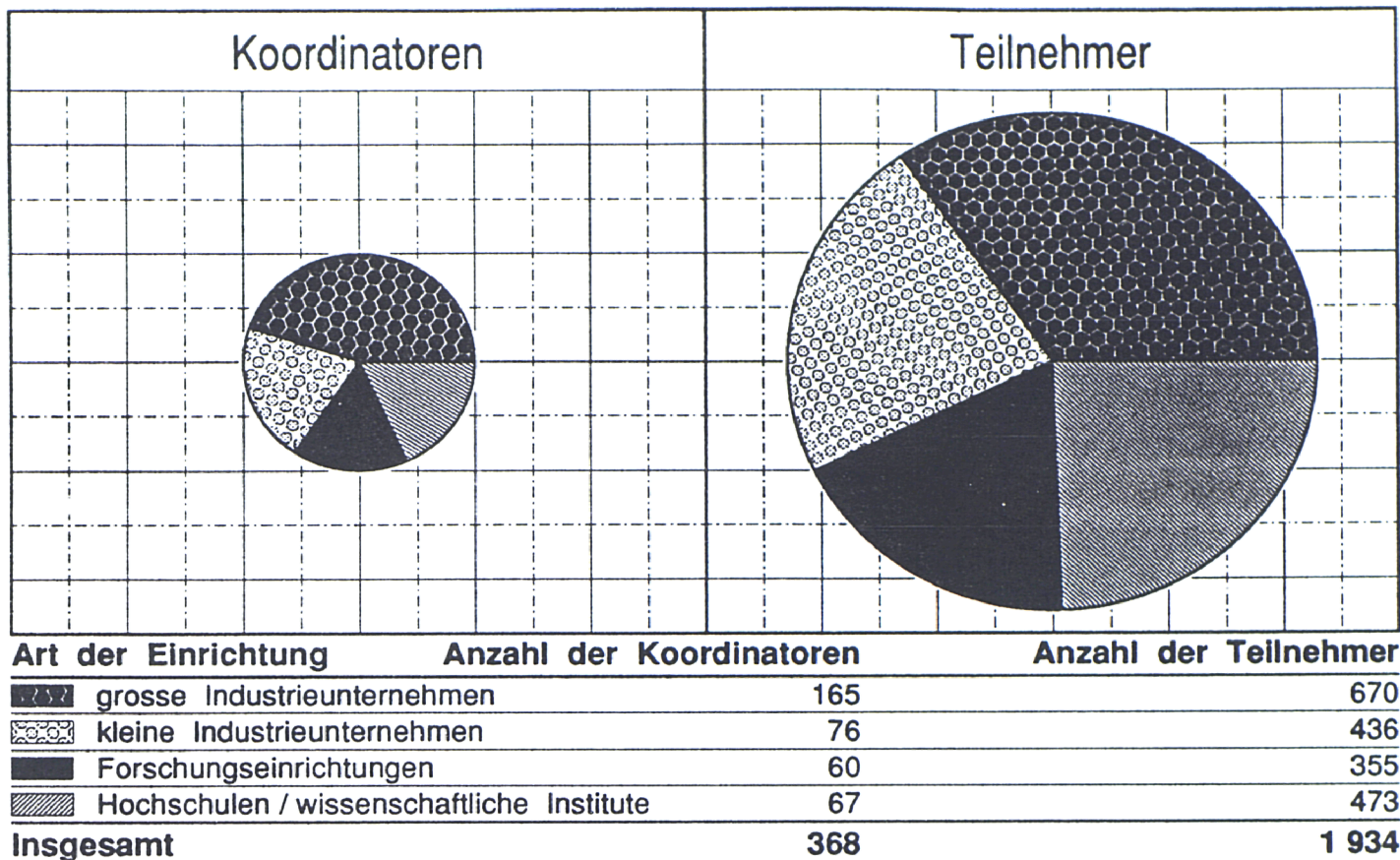


Fig. 1: Aufschlüsselung der Teilnehmer

CCE - CEC - KEG / XII / EG#0 DEP# 442 / 08.06.93

Weitere interessante Daten:

Zeitpunkt der Entscheidung des Rates: 14.3.89

Projektauswahl: 29.6.89

Abschluß des ersten Vertrages: Oktober 1989

Abschluß des letzten Vertrages: Oktober 1990

Durchschnittlicher Umfang der Verträge: 2,3 Mio. ECU

Durchschnittliche Dauer: 36 Monate

Anzahl der Konferenzen: jährlich 50

Anzahl der wissenschaftlichen Veröffentlichungen: jährlich 180

Nachstehend die wichtigsten Etappen bei der Durchführung des Programms:

- . Ermittlung der vorrangigen Themen in Absprache mit der Industrie, unter Berücksichtigung der strategischen Interessen der Europäischen Gemeinschaft und der europäischen Unternehmen.
- . Zwei Aufforderungen zur Einreichung von Vorschlägen (1989–1990)
- . Projektauswahl (von 1304 Vorschlägen wurden 368 ausgewählt; 55% kamen aus der Industrie – 22% KMU –, 24% von Hochschulen und 21% von Forschungseinrichtungen)

Neben den Aktionen auf Kostenteilungsbasis in Höhe von etwa 425 Mio. ECU (Bereiche 1 – 4, bis Ende 1990) und 65 Mio. ECU (Bereich 5), wurden mehrere koordinierte Aktionen erfolgreich durchgeführt (z.B. die konzertierte europäische Aktion auf dem Gebiet der Magnete – CEAM "Concerted European Action on Magnets", EMRS "European Materials Research Society" und auf KMU ausgerichtete Aktionen. In den obigen Angaben ist jedoch die Beteiligung der EFTA-Staaten nicht enthalten.

Zur Unterstützung einer effizienten Leitung und Überwachung der Programmdurchführung wurden grundsätzlich Beratungsgremien (CAN, IRDAC) herangezogen. Es wurden jedoch auch Studien bei externen Einrichtungen in Auftrag gegeben (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick).

2.2 Ergebnisse

Ziel des Programms BRITE/EURAM war eine erhöhte Wettbewerbsfähigkeit der europäischen Industrie. Dieses Ziel wurde bei weitem erreicht. Aus dem Programm ergaben sich direkte und indirekte Vorteile.

2.2.1 Direkte Auswirkungen

BRITE/EURAM kann folgende Erfolge aufweisen:

- . Bei einem großen Teil der abgeschlossenen Projekte (über 70%) wurden die technischen Ziele vollständig oder zum großen Teil erreicht.
- . In 75% der Fälle wird damit gerechnet, daß sich die technologischen Ergebnisse in einer Verbesserung der Wettbewerbssituation der teilnehmenden Unternehmen niederschlagen, was ebenfalls einen hohen Prozentsatz für vorwettbewerbliche FuE darstellt.

Aus diesem Bericht geht eindeutig hervor, daß sich die von den Unternehmen in BRITE/EURAM-Projekte investierten Mittel in hohem Maße auszahlen.

2.2.2 Indirekte Auswirkungen

BRITE/EURAM brachte den teilnehmenden Unternehmen, insbesondere den KMU, weitere Vorteile, die ebenfalls deren Wettbewerbsfähigkeit erhöhen:

- . Schaffung eines wertvollen Kontaktnetzes (über 80% aller teilnehmenden Unternehmen beabsichtigen, die Zusammenarbeit mit ihren Projektpartnern nach Abschluß des jeweiligen Projektes fortzusetzen);
- . Betriebliche Verbesserungen (über zwei Drittel der Unternehmen);
- . Internationale Umgebung, die sich für viele KMU als positiv erwies und ohne Teilnahme an dem jeweiligen Projekt nicht zustandegekommen wäre;
- . immer stärkere Vernetzung von Hochschulen und Industrie in Europa

Die Einführung von CRAFT war ein weiterer wichtiger Schritt bei der Unterstützung der Wettbewerbsfähigkeit der europäischen KMU.

2.2.3 Zusammenhalt

BRITE/EURAM hat den Zusammenhalt Europas durch die Erleichterung internationaler Partnerschaften mit allen damit verbundenen Vorteilen gefördert. Es ist höchst unwahrscheinlich, daß diese positiven Auswirkungen durch von nationalen Einrichtungen finanzierte Forschungsarbeiten erreicht worden wären. Benachteiligte Regionen sind bei den Projekten gut vertreten, wenn auch eher durch Hochschulen als durch Unternehmen.

2.2.4 Verwaltung des Programms

Das Gutachtergremium hat die Verwaltung des Programms als professionell und sehr motiviert eingestuft. Dies geht z. B. aus den Bemühungen um die Bekanntmachung des Programms und die Vereinfachung der Verfahren für die Teilnehmer hervor. Der Erfolg des Programms ist aus der wachsenden Teilnehmerzahl sowie daraus ersichtlich, daß die Regierung der Vereinigten Staaten bei einem ähnlichen Programm die Verfahren von BRITE/EURAM praktisch übernimmt.

Während seiner Durchführungsdauer wird das Programm gut überwacht. Studien werden bei unabhängigen Sachverständigen in Auftrag gegeben, um mögliche Schwierigkeiten zu meistern. Das Gutachtergremium hat jedoch festgestellt, daß in einigen Bereichen Verbesserungen vorgenommen werden könnten.

2.2.5 Umsetzung der Empfehlungen früherer Bewertungen

Die zwei vorhergehenden, mit der Bewertung der Programme BRITE und EURAM beauftragten Gutachtergremien erstellten eine Liste von Empfehlungen zur Verbesserung der Auswirkungen der FuE-Tätigkeiten auf die Fertigungsindustrie in der Gemeinschaft. Es handelte sich um folgende Programmaspekte:

- a) Strategie
- b) Modalitäten
- c) Verwaltung

Im Zusammenhang mit der Strategie riet das BRITE-Gutachtergremium, die beiden Programme (BRITE und EURAM) zu einer stärker marktorientierten Aktion zusammenzufassen, wobei der Einsatz fortgeschrittener Technologien in allen Bereichen der Fertigungsindustrie erleichtert werden sollte. Diese Empfehlung wurde voll umgesetzt. Das Programm BRITE/EURAM wurde geschaffen, in dem die industriellen Ziele der Forschung und die Auswirkungen der Ergebnisse auf die Wettbewerbsfähigkeit stärker hervorgehoben werden. Dies wurde durch die Einführung neuer Vorschriften und Kriterien für die Projektauswahl unterstützt, die die Möglichkeiten der Nutzung stärker berücksichtigen.

Bei den Modalitäten wurden im wesentlichen drei Vorschläge vorgelegt: eine jährliche Aufforderung zur Einreichung von Vorschlägen, größere Beteiligung der KMU und eine eindeutiger Definition der vorwettbewerblichen Forschung. Diese Vorschläge wurden umgesetzt. Es wurden zwei Initiativen im Hinblick auf die Beteiligung der KMU ergriffen: Durchführbarkeitsprämien für KMU, die ihre Fähigkeiten und die Durchführbarkeit ihrer Forschungsvorschläge nachweisen wollen, und (bisher drei) CRAFT-Aktionen für KMU, die an Forschungsergebnissen interessiert sind, selbst jedoch keine Forschungskapazitäten besitzen.

Im Zusammenhang mit der Verwaltung des Programms wiesen die Gutachtergremien auf die Notwendigkeit der Vereinfachung der Verfahren hin, und schlugen vor, die Möglichkeiten einer dezentralisierten Verwaltung zu prüfen, was es der Kommission ermöglichen würde, mit nur einer geringen Anzahl wissenschaftlicher Beamter zu arbeiten. Die Kommission hat daher die Vorschriften für die Aushandlung von Verträgen vereinfacht und eine Pilotaktion für die technische Überwachung der Projekte eingeleitet. Heute werden über 200 Projekte von externen technischen Sachverständigen überwacht.

Die Tabelle in Anhang 4.7 gibt die wichtigsten Empfehlungen sowie die entsprechenden Aktionen der Kommission, zusammengefaßt nach Programmphasen, wieder.

2.2.6 Allgemeine Schlußfolgerungen

Nach Ansicht des Gremiums war das Programm BRITE/EURAM ein beträchtlicher Erfolg. Ein großer Anteil der Projekte erreichte die technischen und wissenschaftlichen Ziele, und die Verwaltung der Kommission wird in den meisten Bereichen als effizient und einsatzfreudig eingestuft. Dieser Eindruck wurde in zahlreichen Kontakten und Gesprächen mit Regierungsvertretern und Projektteilnehmern im Verlauf der Bewertung bestätigt. Nach Ansicht vieler ist BRITE/EURAM eines der erfolgreichsten FuE-Programme der Kommission. Das Gremium teilt diese Ansicht.

2.3 Künftige Themen und mögliche Probleme

Im Einklang mit den Zielen der Einheitlichen Europäischen Akte und den Empfehlungen früherer Bewertungsberichte wurde BRITE/EURAM noch stärker auf die marktbezogene Forschung ausgerichtet. Dies und eine fortgesetzte Öffentlichkeitsarbeit haben zu einer starken Zunahme der Vorschläge geführt.

Beide Aspekte, die Marktausrichtung und die zunehmende Anzahl von Vorschlägen, können den Erfolg dieses Programms in Zukunft beeinträchtigen. Sollte sich nichts ändern, ist mit Verwaltungsproblemen zu rechnen, denn die Beamten müßten eine Flut von Vorschlägen bearbeiten. Dies umso mehr, wenn der Zugang zu dem Gemeinschaftsprogramm erleichtert wird. Sollte dies nicht kontrolliert werden, könnte die Ausrichtung auf den Markt sich weiter verstärken. BRITE/EURAM würde somit in stärkere Konkurrenz zu EUREKA treten als bisher. Die obengenannte Entwicklung würde – ohne eine beträchtliche Aufstockung der Mittel – dazu führen, daß ein sehr großer Teil der Vorschläge (möglicherweise über 95%) abgelehnt würde, was unerwünschte Folgen haben könnte.

Einige der wesentlichen Ungleichgewichte sind möglicherweise auf die allmähliche Änderung der Zielsetzung des Programms zurückzuführen. Das Programm strebt gleichzeitig eine Reihe von – einzeln gesehen – erstrebenswerten, jedoch in einigen Punkten unvereinbaren Zielen an:

- . Förderung der vorwettbewerblichen Forschung, jedoch unter dem – verständlichen – politischen Druck, unmittelbare wirtschaftliche Ergebnisse vorzuweisen;
- . immer stärkere Unterstützung von KMU-Projekten im Rahmen eines Programms, das nicht zu stark marktorientiert sein sollte. Die Marktorientierung ist andererseits für die meisten KMU besonders wichtig;
- . Beitrag zum europäischen Zusammenhalt, gleichzeitig jedoch die Auflage,

die Projekte ausschließlich aufgrund ihres wissenschaftlich-technischen Interesses auszuwählen;

- . Selbst bei wachsender Unterstützung der KMU kann das Programm nur einen sehr geringen Beitrag zur Entwicklung des technischen Know-Hows der europäischen KMU leisten. Die an BRITE/EURAM teilnehmenden 436 KMU entsprechen etwa 0,025% der insgesamt etwa 1,7 Mio. KMU.
- . Einige Mitgliedstaaten drängen immer stärker darauf, daß sie für ihren Beitrag zum Programm eine angemessene Gegenleistung erhalten. Selbst eine implizite Anerkennung dieses Prinzips durch die Gemeinschaft könnte bei der Projektauswahl zu ernststen Konflikten führen und würde die Qualität künftiger Forschungsprojekte beeinträchtigen.

Es gibt daher gute Gründe für eine gründliche Prüfung dieser Fragen und der möglichen Schwierigkeiten im Rahmen von BRITE/EURAM. Die nachstehenden Empfehlungen sind als Grundlage dafür zu sehen.

2.4 Empfehlungen

Das Gremium spricht Empfehlungen für zwei Bereiche aus: politische Entscheidungen und Organisation. Erstere beziehen sich auf wesentliche Änderungen der Programmstruktur und des Programmziels, letztere auf inkrementelle Verbesserungen bestimmter Aspekte der Programmverwaltung und -durchführung.

2.4.1 Politische Entscheidungen

1. Der immer größere Erfolg von BRITE/EURAM, die steigende Anzahl an Projektvorschlägen und der zunehmende Mittelbedarf könnten die Kommission dazu zwingen, eine Mittelaufstockung in Betracht zu ziehen, allein schon, damit der Anteil der ausgewählten Projekte akzeptabel bleibt. Selbst bei einer solchen Mittelaufstockung empfiehlt das Gremium eine tiefgreifende Überarbeitung der wichtigsten Elemente des Programms, wodurch gleichzeitig die Berücksichtigung des Subsidiaritätsprinzips ermöglicht wird (s. Anhang 4.6). Ferner ergibt sich bei einer Analyse der Methoden zur Förderung der Wettbewerbsfähigkeit der europäischen Industrie, daß der Schwerpunkt eines künftigen BRITE/EURAM-Programms wie früher auf der vorwettbewerblichen Phase liegen sollte, selbst wenn sich zahlreiche Teilnehmer aus der Industrie, insbesondere KMU, vehement dagegen aussprechen. Eine Reihe von Änderungen sind möglich; das Gremium empfiehlt die folgenden:
 - . Einschränkung der Anzahl der Forschungsbereiche
 - . stärkere Betonung der grundlegenden Technologien; Zuweisung eines größeren Anteils der Mittel an die strategische Forschung (im Gegensatz zur ausschließlich angewandten Forschung); (s. Definitionen in Anhang 4.6)
 - . strengere Anwendung des Grundsatzes der vorwettbewerblichen Forschung;
 - . Flexibilität der Höhe der finanziellen Unterstützung.

Es ist hervorzuheben, daß BRITE/EURAM die Förderung der Forschungsbemühungen der Industrie zum Ziel hat. Die Beteiligung von Herstellern und Benutzern der zu entwickelnden Technologien ist daher zu unterstützen.

2. Sollte die von der Gemeinschaft in den von BRITE/EURAM abgedeckten Bereichen finanzierte Forschung in Zukunft wie vorgeschlagen auf die strategische Forschung und grundlegende Technologien konzentriert sein, ist das Gremium, auch aufgrund der Probleme der Beteiligung der KMU an dem derzeitigen Programm, der Ansicht, daß man den Bedürfnissen der KMU am besten in einer eigenen Initiative gerecht werden könnte. Die Kommission sollte daher die Möglichkeiten einer Ausweitung des bestehenden Programms CRAFT prüfen. Ferner sollte eine Verwaltungsstruktur geschaffen werden, durch die die Zusammenarbeit der KMU bei der Forschung auf nationaler Ebene gefördert wird sowie Unternehmen und nationale Einrichtungen gegebenenfalls bei der Förderung der Beteiligung von KMU an einem eigenen Gemeinschaftsprogramm unterstützt werden können.
3. Die derzeitige Beschränkung auf Projekte von bis zu 5 Mio. ECU sollte überprüft werden, Regeln für die Annahme größerer Projekte sollten festgelegt werden.
4. Das Gremium prüfte eine Reihe von Punkten im Zusammenhang mit dem Verhältnis von BRITE/EURAM zu anderen Programmen und empfiehlt:
 - . eine fortlaufende Überwachung der Koordinierung von BRITE/EURAM und parallelen Aktionen wie ESPRIT. Die Aufnahme der computerintegrierten Fertigung in das Programm BRITE/EURAM wäre nach Ansicht des Gremiums ein wichtiger Schritt zur Vermeidung von Koordinierungsproblemen.
 - . Erfolgreiche BRITE/EURAM-Projekte mit Entwicklungspotential sollten als solche gekennzeichnet werden, da dies Teilnehmern auf der Suche nach weiteren Finanzmitteln, insbesondere bei einem Antrag auf Teilnahme an EUREKA, von Nutzen sein könnte.
 - . Das Verhältnis BRITE/EURAM – Programm VALUE muß eindeutiger definiert werden, wobei das Subsidiaritätsprinzip angemessen zu berücksichtigen ist. Die Kommission sollte die Möglichkeiten prüfen, VALUE zu einer zentralen Referenz für die Mitgliedstaaten zu machen. Die Verantwortung für die Verbreitung der Projektergebnisse sowie die Förderung und Finanzierung von Folgemaßnahmen (z.B. Prototyp-Entwicklung) sollte den einzelstaatlichen Regierungen zufallen.
5. Die Kommission sollte dem von seiten der Mitgliedstaaten, die eine nationale Beteiligung an BRITE/EURAM bzw. nachfolgenden Programmen von einer Erstattung ihrer Finanzierung abhängig machen, ausgeübten Druck auf keinen Fall nachgeben.
6. Die Protokolle über die Veröffentlichung der Projektergebnisse sind zu überarbeiten. Das Gremium ist zwar der Ansicht, daß die Veröffentlichung von aus öffentlichen Geldern finanzierten Forschungsergebnissen nicht eingeschränkt werden darf, empfiehlt jedoch, aufgrund der Vertraulichkeit von Industriedaten den Unternehmen bei einigen Ergebnissen zuzugestehen, im Einvernehmen mit den anderen Projektteilnehmern einen zeitlich genau begrenzten Aufschub für die Veröffentlichung zu beantragen. Ein solcher Aufschub sollte 18 Monate nicht überschreiten. Ferner würde das Gremium jede Initiative der Kommission zur Unterstützung der Patentierung von Projektergebnissen unterstützen. Der Kommission sollte das Recht der Veröffentlichung von zusammenfassenden Berichten über laufende Forschungsarbeiten vorbehalten bleiben.

2.4.2 Organisation

1. Die bisherigen, in regelmäßigen Abständen veröffentlichten Aufforderungen zur Einreichung von Vorschlägen stellen eine künstliche Belastung für die harmonische Entwicklung von Projektvorschlägen und eine unnötige Belastung für das BRITE/EURAM-Personal dar. Das Gremium empfiehlt, dieses Verfahren im Rahmen der bisher verfügbaren Mittel durch eine permanente Aufforderung zur Einreichung von Vorschlägen zu ersetzen.
 2. Die Kommission sollte weitere Maßnahmen zur vertraglichen Delegation eines Teils der Programmverwaltung an unabhängige Einrichtungen oder Personen erwägen, weiterhin jedoch für endgültige Entscheidungen zuständig sein. Eine Möglichkeit wäre die dezentralisierte Zuständigkeit für die Vorbereitung und Aushandlung der Projektverträge, wobei angemessene Mittel bereitzustellen sind.
 3. Die Öffentlichkeitsarbeit (Werbe- und andere Maßnahmen) sollte stärker auf den Bekanntheitsgrad des Programms in den einzelnen Ländern abgestimmt werden. Die diesbezüglichen Gesamtkosten sollten ferner in einem vernünftigen Verhältnis zu der Mittelausstattung des Programms stehen. Eine intensivere Werbung würde unter den gegenwärtigen Umständen dazu führen, daß ein größerer Anteil von Vorschlägen abgelehnt wird.
 4. Leitlinien für die Verwaltungsbeamten und – wo dies existiert – die Ausbildung in Projektverwaltung sollten vorrangig behandelt werden, um eine ausgewogene hohe Qualität und eine gemeinsame Definition von Neutralität und Unabhängigkeit bei der Projektverwaltung beizubehalten. Das Gremium empfiehlt, daß solche Leitlinien auch den Projektteilnehmern zur Verfügung gestellt werden.
 5. Die Kommissionsvorschriften für die Zahlung der finanziellen Unterstützung für Projekte sollten überprüft werden, um es den Teilnehmern zu ermöglichen, die einschlägigen Kosten vom Zeitpunkt der Projektauswahl an zu berücksichtigen.
 6. Zahlreiche Partner aus der Industrie, insbesondere KMU, sind wegen des damit verbundenen Verwaltungsaufwandes nicht gerne bereit, die Rolle des Hauptvertragsnehmers zu übernehmen. Daher sollte die Kommission prüfen, ob der dafür vorgesehene finanzielle Ausgleich erhöht werden sollte.
 7. Die Kommission sollte Verzögerungen bei der Zahlung der Projektunterstützung in Zukunft zu vermeiden suchen.
 8. Sollte aus technischen oder finanziellen Gründen der Anteil der abgelehnten Projekte steigen, wäre eine Projektauswahl in zwei Schritten wünschenswert. Eine Möglichkeit, die derzeit bereits von der BRITE/EURAM-Verwaltung geprüft wird, wäre, daß Interessenten der Kommission eine Zusammenfassung des geplanten Forschungsprojektes im Hinblick auf eine Vorauswahl vorlegen.
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2. SUMARIO

El presente sumario consta de cuatro apartados:

- 2.1. Resumen del programa BRITE/EURAM
- 2.2 Logros del programa BRITE/EURAM
- 2.3 Tendencias emergentes y problemas potenciales
- 2.4 Recomendaciones

2.1 Resumen del programa BRITE/EURAM

El objetivo principal del programa BRITE/EURAM 1989-92 es reforzar la posición competitiva de las industrias manufactureras de la Comunidad. Entre los diversos objetivos figuran la colaboración transfronteriza en investigación industrial estratégica y la transferencia de tecnología entre países comunitarios y entre sectores, especialmente aquellos con un elevado número de PYME.

El programa abarca cinco sectores reagrupados en dos partes:

- Los sectores 1 a 4 incluyen: tecnologías de materiales avanzados, metodología y garantía de diseño para productos y procesos, aplicación de tecnologías de fabricación y tecnologías de procesos de fabricación.
- Sector 5: Aeronáutica. (La evaluación de este programa piloto de dos años se ha confiado a un grupo separado de expertos externos independientes de acuerdo con lo dispuesto en el artículo 4 de la decisión del Consejo. Los resultados de su trabajo figuran en un informe aparte que ya ha sido publicado con el título: "Evaluación de investigación. Informe no 46 EUR/13524).

La asignación presupuestaria total asciende a 449,5 millones de ecu, de los que 440 millones han sido destinados a 368 proyectos.

El volumen y el tipo de participación en este programa figura en la tabla siguiente:

Estados miembros	B	DK	F	D	G	IR	I	L	NL	P	E	UK	total
Coordi- nadores	21	16	71	67	6	8	40	3	27	7	16	86	368
Partici- pantes	118	67	379	377	65	49	198	5	102	78	132	364	1934

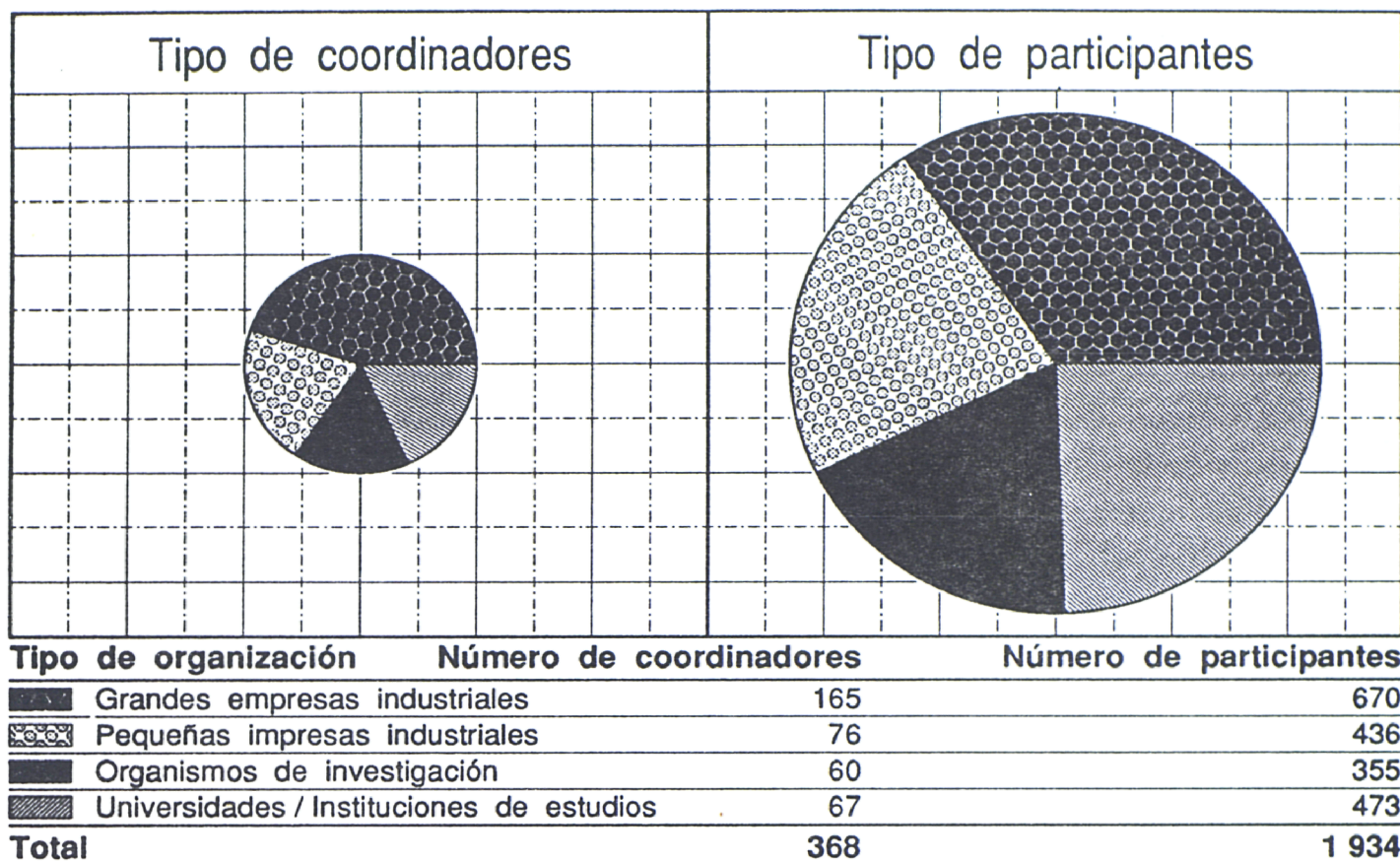


Fig. 1: Distribución de participantes

CCE - CEC - KEG / XH / EGM0 ESP#442 / 08.06.93

Otras características interesantes del programa:

Fecha de la Decisión del Consejo: 14.03.89

Selección de los proyectos: 29.06.89

Firma del primer contrato: octubre de 1989

Firma del último contrato: octubre de 1990

Importe medio de los contratos: 2,3 millones de ecu

Duración media: 36 meses

Número de conferencias: 50/año

Número de informes científicos: 180/año

La ejecución del programa se ha caracterizado por los siguientes pasos o elementos principales:

- Determinación de los temas prioritarios previa consulta con la industria, teniendo en cuenta los intereses estratégicos de la CE y de las empresas europeas.
- Dos convocatorias de propuestas (1989-1990).
- Selección de proyectos (de 1304 propuestas, se seleccionaron 368 de las que un 50% provenían de empresas - incluidas un 22% de PYME - un 24% de universidades y un 21% de centros de investigación).

Además de los proyectos de costes compartidos que, a finales de 1990, representaban cerca de 425 millones de ecus para los sectores 1 a 4 y cerca de 65 millones de ecus para el sector 5, se llevaron a cabo con éxito varios proyectos de coordinación: la Acción Concertada Europea Sobre Imanes (CEAM), la Sociedad Europea de Investigación de Materiales (EMRS) y proyectos dirigidos a las PYME. No obstante, el análisis anterior no incluye a los participantes de los países de la AELC.

Además de la participación sistemática de organismos consultivos (CAN, IRDAC), se concedieron contratos para realizar estudios a varias empresas (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick), que fueron de utilidad para la gestión y el control efectivos del programa.

2.2 Logros del programa BRITE/EURAM

El objetivo del programa BRITE/EURAM era aumentar la competitividad de la industria europea. Este objetivo ha sido ampliamente alcanzado gracias a los beneficios directos e indirectos derivados del programa.

2.2.1 Resultados directos

El programa BRITE/EURAM se puede considerar un éxito en la medida en que:

- un porcentaje elevado de los proyectos finalizados (más del 70%) han alcanzado sus objetivos tecnológicos "totalmente" o "en gran medida";
- se espera que el éxito tecnológico redunde en la mejora de la posición competitiva de las empresas participantes en cerca del 75% de los casos, lo cual es un porcentaje elevado para la I+D precompetitiva.

Este informe pone claramente de manifiesto que las empresas participantes obtendrán un rendimiento significativo de las inversiones realizadas en los proyectos BRITE/EURAM.

2.2.2 Resultados indirectos

El programa BRITE/EURAM ha proporcionado a las empresas participantes, en especial a las PYME, otros beneficios que también incrementarán su competitividad. Entre ellos se pueden citar:

- la creación de una valiosa red de contactos (más del 80% de todas las empresas participantes tienen pensado continuar cooperando con las empresas asociadas para un proyecto futuro, una vez finalizado el proyecto).
- La experiencia organizativa (más de dos tercios de las empresas han adquirido conocimientos en este campo).
- La experiencia internacional que, en el caso de muchas PYME, ha resultado beneficiosa y hubiera sido imposible de no ser por el proyecto.
- La extensión de las asociaciones en red de universidades y empresas en toda Europa.

Por último, la introducción de CRAFT ha sido un elemento importante más que ha servido para incrementar la competitividad de las PYME europeas.

2.2.3 Cohesión

El programa BRITE/EURAM ha contribuido a aumentar la cohesión de Europa al facilitar las asociaciones internacionales con los beneficios que ello acarrea. Es muy improbable que se hubieran alcanzado esos beneficios si la investigación hubiese sido financiada por instituciones de ámbito estrictamente nacional. Las regiones más desfavorecidas están bien representadas en los proyectos, si bien tienden a estar representadas más por universidades que por empresas comerciales.

2.2.4 Gestión del programa

El grupo de evaluadores ha encontrado a los responsables del programa altamente cualificados y muy motivados. Ello se refleja en los esfuerzos realizados para dar a conocer el programa y para simplificar los procedimientos de participación. El éxito se puede medir por el continuo incremento de los participantes y por el hecho de que el Gobierno de los Estados Unidos está siguiendo los mismos procedimientos utilizados en el programa BRITE/EURAM para un programa similar.

El seguimiento y control del programa ha sido satisfactorio, habiéndose encomendado estudios independientes para resolver los problemas surgidos. No obstante, el grupo de evaluadores ha determinado algunos aspectos en los que se pueden realizar algunas mejoras.

2.2.5 Aplicación de las recomendaciones de evaluaciones anteriores

Los tres grupos encargados de las evaluaciones anteriores de los programas BRITE/EURAM confeccionaron una lista de recomendaciones para aumentar los efectos de las actividades de I+D en la industria manufacturera de la Comunidad. Las recomendaciones se referían a tres aspectos diferentes de los programas:

- a) la estrategia
- b) las modalidades
- c) la gestión

Desde el punto de vista estratégico, el grupo de evaluadores de BRITE recomendó la fusión de los dos programas (BRITE y EURAM) en uno sólo con una orientación más comercial y que persiga como objetivo la aplicación de tecnologías avanzadas a todos los sectores de las industrias manufactureras. Esas sugerencias han sido plenamente incorporadas al nuevo programa BRITE/EURAM en el que se ha dado un énfasis mayor a los objetivos industriales de la investigación y a la repercusión de los resultados en la competitividad. La introducción de nuevas normas y criterios de selección que tienen más en cuenta el potencial de explotación ha reforzado este planteamiento.

Por lo que respecta a las modalidades, hubo tres sugerencias principales: una convocatoria de propuesta anual, una mayor participación de las PYME y una definición más clara de la investigación precompetitiva. Las tres han sido plenamente aplicadas. Por lo que respecta a la participación de las PYME, se han puesto en marcha dos iniciativas especiales: el plan de premios a la viabilidad para las PYME que deseen probar su capacidad y la viabilidad de sus proyectos de investigación, y el programa CRAFT para las PYME (tres hasta la fecha) interesadas en resultados de investigación, pero que no disponen de una capacidad de investigación real.

En lo relativo a los aspectos de gestión del programa, los grupos expresaron la necesidad de simplificar los procedimientos y sugirieron a la Comisión que explorase la posibilidad de centralizar la gestión para mantener únicamente un pequeño equipo de funcionarios científicos. Así pues, la Comisión ha introducido unas normas más simplificadas para la negociación y ha lanzado un plan piloto para el control técnico de los proyectos. En la actualidad más de doscientos proyectos están controlados por auditores técnicos de proyectos (PTA) externos.

En el cuadro incluido en el anexo 4.7, figuran las recomendaciones más importantes junto con las medidas correspondientes adoptadas por la Comisión agrupadas según las diferentes fases del programa.

2.2.6 Conclusiones generales

El grupo de evaluadores se muestra convencido en su conclusión de que el programa BRITE/EURAM ha sido un éxito sustancial. Un alto porcentaje de los proyectos han alcanzado sus objetivos técnicos y científicos, y la gestión del programa por parte de la Comisión se considera, en la mayoría de los aspectos, eficaz y entusiasta. Esta impresión se confirmó a raíz del amplio número de contactos y entrevistas realizados durante la evaluación con representantes gubernamentales y participantes en los proyectos. En opinión de muchos, el programa BRITE/EURAM es uno de los programas de I+D de la Comisión que más éxito han tenido, punto de vista compartido por el grupo de evaluadores.

2.3 Tendencias emergentes y problemas potenciales

El programa BRITE/EURAM se ha orientado hacia un tipo de investigación más "comercial" de acuerdo con los objetivos del Acta Única Europea y las recomendaciones de informes de evaluación anteriores. Este cambio junto con el esfuerzo de promoción realizado, ha generado un fuerte aumento en el número de solicitudes.

Estas dos tendencias, la orientación más comercial y el aumento del número de solicitudes, tiene consecuencias que pueden poner en peligro el éxito futuro del programa. Si la situación no cambia, es de prever que se produzca una crisis en la gestión de programa ya que los responsables tendrán que hacer frente a una avalancha de propuestas que se agravará con las nuevas facilidades de acceso al programa comunitario, de tal manera que si no se pone freno a esta situación, se reforzará la tendencia hacia la investigación comercial o casi comercial. Con ello, el programa BRITE/EURAM entraría en competencia con el programa EUREKA en una medida mayor de la actual. Una evolución de estas características que no vaya acompañada de un incremento sustancial de los fondos de financiación, tendría como resultado un porcentaje de proyectos rechazados del orden del 95% que podría tener consecuencias perjudiciales.

Se podría argumentar que algunos de los desequilibrios básicos se deben a un cambio gradual de enfoque del mandato del programa. En efecto, parece que se esté intentando simultanear distintos objetivos que si bien individualmente son lícitos, en alguna medida son incompatibles. Por ejemplo:

- el programa persigue el fomento de la "investigación precompetitiva" pero está sometido a una presión política comprensible para que produzca beneficios económicos inmediatos;

- el programa apoya en una medida cada vez mayor proyectos de PYME, pero su objetivo está alejado de la investigación puramente comercial que, no obstante, constituye el interés primordial de la mayoría de las PYME;
- el programa ha de contribuir a la cohesión europea, y sin embargo, tiene que compaginar ese objetivo con el mandato de seleccionar proyectos con criterios exclusivamente técnicos y científicos;
- aun con el apoyo creciente a las PYME, el programa puede contribuir muy poco al desarrollo tecnológico de las PYME europeas; los 436 participantes en BRITE/EURAM representan alrededor del 0,025% de los 1,7 millones de PYME que se calcula que existen en Europa;
- parece haber una presión cada vez mayor por parte de algunos Estados miembros para "recuperar la inversión" (es decir, que cada Estado miembro reciba la misma cantidad de fondos para la financiación de proyectos que los contribuidos para la financiación del programa). La aceptación por la Comunidad de este principio, siquiera tácita, podría generar conflictos graves en el proceso de selección e inevitablemente perjudicaría la calidad de futuros proyectos de investigación.

Por tanto, existe un sólido fundamento para llevar a cabo un estudio en profundidad de estas tendencias y problemas potenciales para BRITE/EURAM. Las siguientes recomendaciones pretenden servir de fundamento a dicho análisis.

2.4 Recomendaciones

El grupo de evaluación ha optado por separar las recomendaciones en dos secciones: las relativas a las normas de actuación y las relativas a la organización. Las primeras se refieren a modificaciones sustanciales de la estructura y el objetivo del programa, mientras que las segundas se refieren a mejoras de aspectos concretos de la gestión y la aplicación de programas.

2.4.1 Normas de actuación

1. A la vista del éxito de BRITE/EURAM, del número creciente de propuestas y de la demanda cada vez mayor de recursos, la Comisión puede verse forzada a estudiar un incremento de los fondos de financiación aunque sólo sea para mantener un porcentaje de admisión a un nivel aceptable. Aun en ese caso, el grupo de evaluación propone que se modifiquen de manera sustancial las características principales del programa al tiempo que se cumplen los criterios de subsidiariedad (véase el Anexo 4.6). Además, una evaluación racional de los medios para apoyar la competitividad de la industria europea aconseja orientar el futuro BRITE/EURAM hacia la financiación precompetitiva aunque ello vaya en contra de la opinión de muchos participantes industriales, especialmente las PYME. De entre varias opciones de cambio posibles, el grupo de evaluación recomienda que:
 - se reduzca el número de campos de investigación;

- se haga un énfasis mayor en las tecnologías genéricas; habría que asignar una proporción mayor de fondos a la investigación estratégica en lugar de a la investigación puramente aplicada (véanse las definiciones en el Anexo 4.6);
- se apliquen más estrictamente los criterios de precompetitividad;
- se establezcan niveles flexibles de financiación.

Conviene hacer hincapié en el hecho de que BRITE/EURAM es un programa dedicado a la ayuda a la investigación por parte de la industria, y hay que fomentar la presencia en los equipos de investigación tanto de los productores como de los usuarios de las tecnologías a desarrollar.

2. Si, como se ha sugerido anteriormente, se decidiese que las actividades de investigación a financiar con fondos BRITE/EURAM tienen que ser de naturaleza más estratégica y estar enfocadas a las tecnologías genéricas, el grupo de evaluadores opina que las necesidades de las PYME, cuya participación en el programa BRITE/EURAM se vería comprometida, se podrían satisfacer mejor en el marco de otra iniciativa. A este respecto, la Comisión debería estudiar la manera de ampliar el ámbito de aplicación del programa CRAFT. Además, la Comisión debería establecer una estructura administrativa que se ocupase tanto de fomentar la cooperación en el ámbito de la investigación entre PYME a escala nacional como de colaborar con las empresas y organismos nacionales en el fomento de la participación de las PYME en un programa comunitario adecuado.
3. El límite actual de 5 millones de ecus para el presupuesto de los proyectos debería reconsiderarse con vistas a la definición de reglas para aceptar proyectos de mayor importancia.
4. El grupo de evaluación ha estudiado varios aspectos relativos a la relación entre BRITE/EURAM y otros programas y recomienda:
 - Un control continuo de la coordinación entre BRITE/EURAM y actividades paralelas como ESPRIT; el traslado de CIM a BRITE/EURAM sería, en opinión del grupo, un paso importante hacia la eliminación de problemas potenciales de coordinación.
 - Los proyectos BRITE/EURAM finalizados con éxito que tengan potencial de desarrollo futuro deberían reservarse para recibir una financiación suplementaria, en particular en el marco del programa EUREKA.
 - La relación entre BRITE/EURAM y el programa VALUE necesita ser definida con más detalle teniendo en cuenta el papel de la subsidiariedad. La Comisión debería examinar la manera de reforzar el papel de VALUE como punto central de referencia para los Estados miembros. La responsabilidad de la difusión de información sobre los resultados de los proyectos, y el fomento y la financiación de las actividades derivadas, como el desarrollo de prototipos, no debería dejarse en manos de los distintos gobiernos.

5. La Comisión debería oponerse resueltamente a las presiones de los Estados miembros para "recuperar la inversión" por lo que respecta a su participación en BRITE/EURAM o en futuros programas de la misma naturaleza.
6. Los protocolos relativos a la publicación de los resultados de los proyectos deben modificarse. Si bien el grupo de evaluación opina que la información relativa a la investigación financiada con fondos públicos no debe restringirse, recomienda que, habida cuenta del carácter confidencial de algunos resultados, las industrias participantes puedan, de acuerdo con sus socios en el proyecto, solicitar un retraso en la publicación durante un plazo determinado, no superior a 18 meses. Además, el grupo de evaluación aplaude las iniciativas de la Comisión que tienen por objeto fomentar las patentes de resultados de proyectos. La Comisión debería conservar el derecho de publicar resúmenes de los proyectos de investigación en marcha.

2.4.2 Organización

1. La política actual de convocatorias periódicas de propuestas constituye un obstáculo artificial para la elaboración de proyectos y una carga innecesaria para el personal de BRITE/EURAM. El grupo de evaluación recomienda que, en la medida en que lo permita el presupuesto, se adopte un sistema de "convocatoria abierta".
2. La Comisión debería estudiar la contratación de organizaciones o personas independientes para algunos aspectos de la gestión del programa, si bien debería reservarse la facultad de adoptar la decisión definitiva. A este respecto, una posibilidad podría ser la descentralización de la responsabilidad por la preparación y la negociación de los contratos de proyectos con la dotación presupuestaria correspondiente.
3. La promoción del programa a través de la publicidad de otras medidas debería ser proporcional a los distintos grados de conocimiento del programa en los distintos países. Además, el gasto global debería guardar una proporción razonable con los fondos disponibles del programa. En las actuales circunstancias, más publicidad tendrá como consecuencia un porcentaje mayor de proyectos rechazados.
4. Las directrices para el personal comunitario y, llegado el caso, la formación en el campo de la gestión de proyectos, deberían ser prioritarias tanto para mantener el equilibrio entre el alto nivel de calidad y la imparcialidad e independencia en la intervención de los proyectos. El grupo de evaluación recomienda que dichas directrices se pongan también a disposición de los participantes en los proyectos.
5. Las normas de la Comisión relativas al pago de las subvenciones deberían reexaminarse para permitir a los participantes imputar los costes pertinentes a partir del momento de la selección del proyecto.
6. Muchos socios industriales, en particular las PYME, se muestran remisos a asumir la función de contratista principal a causa del trabajo de gestión que ello implica. Por tanto, la Comisión debería estudiar la oportunidad de incrementar la compensación económica por el desempeño de esa función.

7. La Comisión debería poner remedio a los retrasos en los pagos de las subvenciones.
8. Si, por razones técnicas o económicas, el porcentaje global de proyectos rechazados aumentase, se recomienda la adopción de un sistema de selección de propuestas de dos fases. Una solución posible que ya está siendo examinada por los responsables de BRITE/EURAM podría ser conceder la posibilidad a todos los interesados de presentar a la Comisión un esbozo de proyecto de investigación para recibir una primera reacción.

2. SYNTHÈSE

Cette synthèse comporte quatre parties :

- le résumé du programme BRITE/EURAM,
- les résultats du programme BRITE/EURAM,
- les problèmes actuels et éventuels,
- les recommandations.

2.1. Résumé du programme BRITE/EURAM

L'objectif principal du programme BRITE/EURAM 1989-92 est d'accroître la compétitivité des industries manufacturières communautaires. Ses priorités sont la collaboration transfrontalière en matière de recherche industrielle stratégique et le transfert de technologie entre pays et secteurs, notamment ceux où la concentration de PME est importante.

Le programme couvre cinq domaines, regroupés en deux parties :

- Domaines 1 à 4 : technologies des matériaux avancés, méthodes de conception et assurance qualité des produits et des procédés, applications des technologies de fabrication, technologies des procédés de fabrication.
- Domaine 5 : aéronautique. (Un groupe distinct d'experts externes indépendants a été chargé d'évaluer cette action pilote conduite sur deux années, conformément à l'article 4 de la décision du Conseil. Les résultats ont fait l'objet d'un rapport séparé, intitulé "Research evaluation Report No.46 (EUR 13524.).

Son budget total s'élève à 499,5 Mécus, dont 440 ont été engagés pour 368 projets.

L'importance et la nature de la participation à ce programme sont indiquées dans le tableau ci-dessous :

Etats membres	B	DK	F	D	G	IR	I	L	NL	P	E	UK	
Coordonnateurs	21	16	71	67	6	8	40	3	27	7	16	86	368
Participants	118	67	379	377	65	49	198	5	102	78	132	364	1934

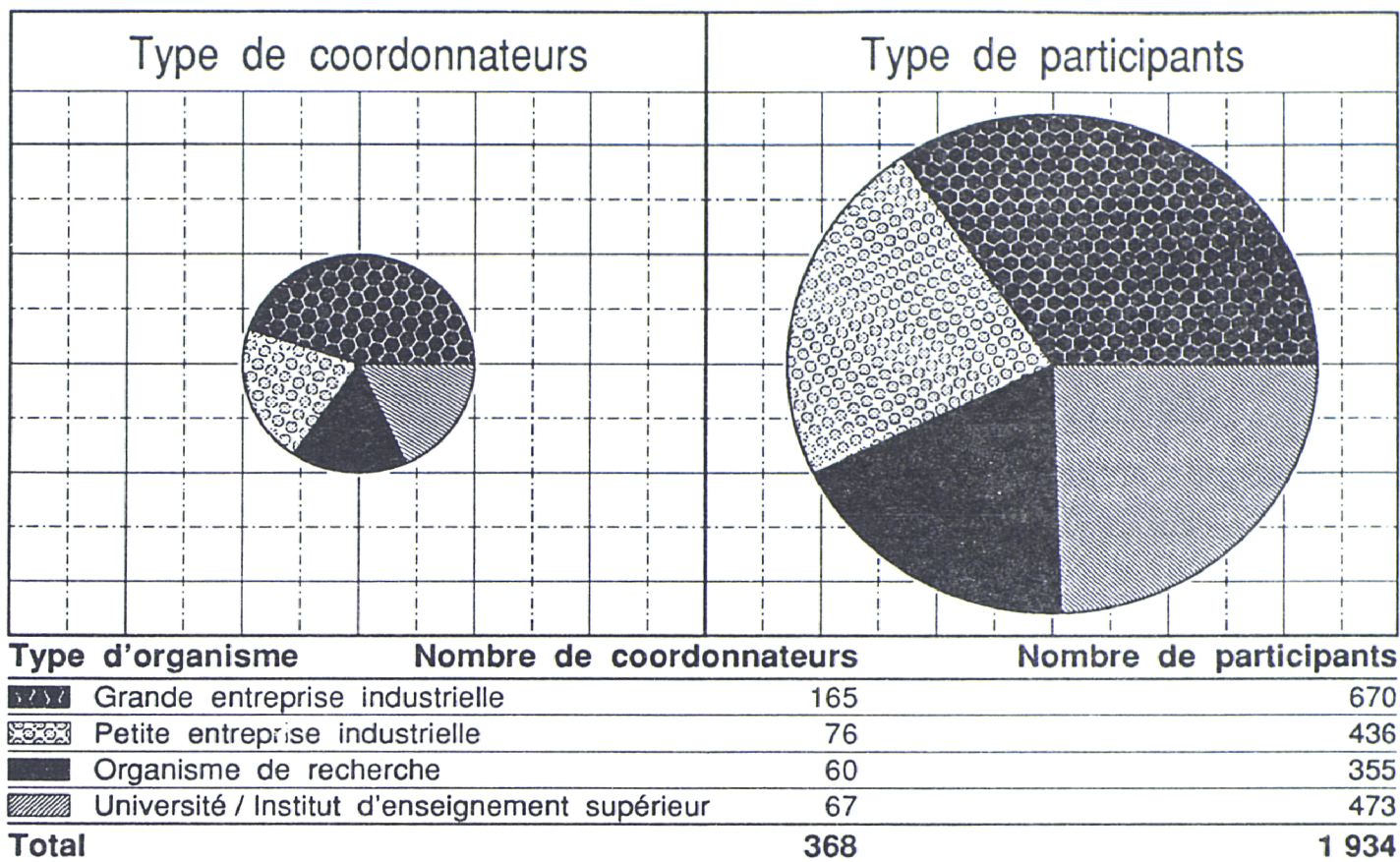


Fig. 1: Répartition des participants

CEC / XII / EG#0 FRP#442 / 06.06.93

Voici quelques autres éléments intéressants sur le programme :

Date de la décision du Conseil : 14.03.89

Sélection des projets : 29.06.89

Passation du premier contrat : octobre 1989

Conclusion du dernier contrat : octobre 1990

Valeur type des contrats : 2,3 Mécus

Durée type : 36 mois

Nombre de conférences : 50 par an

Nombre de documents scientifiques : 180 par an.

Les principales étapes de la mise en oeuvre du programme ont été les suivantes :

- Définition des thèmes prioritaires, en consultation avec l'industrie, d'après les intérêts stratégiques de la Communauté et des sociétés européennes.
- Deux appels de propositions (1989-1990)
- Sélection des projets (sur 1304 propositions, 368 ont été retenues; la participation se compose de 55 % d'industries (dont 22 % de PME), de 24 % d'universités et de 21 % de centres de recherche).

En plus des actions à frais partagés, qui représentaient, à la fin de 1990, environ 425 Mécus pour les domaines 1 à 4 et environ 65 Mécus pour le domaine 5, plusieurs actions de coordination ont été menées à bien; il s'agit de l'Action concertée européenne sur les aimants (CEAM), de la Société européenne de recherche sur les matériaux (EMRS) et des actions ciblées sur les PME. Cette énumération ne tient toutefois pas compte de la participation des pays de l'AELE.

Outre la participation systématique des comités consultatifs (CAN, IRDAC), plusieurs études ont été commandées à l'extérieur (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick) pour aider les responsables à orienter et gérer efficacement le programme.

2.2. Résultats du programme BRITE/EURAM

L'objectif du programme BRITE/EURAM, qui était d'accroître la compétitivité de l'industrie européenne, a été largement atteint tant par les résultats directs qu'indirects du programme.

2.2.1. Résultats directs

BRITE/EURAM peut être considéré comme positif dans la mesure où :

- un pourcentage élevé des projets achevés (plus de 70%) ont "totalement" ou "essentiellement" atteint leurs objectifs technologiques;
- ce succès technologique est censé se traduire par une amélioration de la compétitivité des entreprises participantes dans environ 75% des cas, ce qui, là encore, représente un chiffre élevé pour la R&D précompétitive.

Le présent rapport montre clairement que les projets BRITE/EURAM sont tout à fait rentables pour les entreprises participantes.

2.2.2. Résultats indirects

BRITE/EURAM a apporté aux entreprises participantes, notamment aux PME, d'autres avantages qui ont également renforcé leur compétitivité; il s'agit notamment :

- de la création d'un réseau de contacts précieux. (Plus de 80% de l'ensemble des entreprises participantes projettent de continuer la coopération avec leurs partenaires une fois le projet achevé.);
- de l'acquisition du sens de l'organisation (dans plus de deux tiers des entreprises);
- de la découverte du milieu international qui, pour de nombreuses PME, s'est avérée bénéfique et n'aurait pu se faire en dehors du projet;
- de développement des relations entre universités et industries dans toute l'Europe.

Enfin, la création de CRAFT est un autre élément important du renforcement de la compétitivité des PME européennes.

2.2.3. Cohésion

BRITE/EURAM a favorisé la cohésion de l'Europe en facilitant la coopération internationale, avec tous les avantages que cela comporte. Il est fort peu probable que ces résultats eussent été atteints si la recherche avait été financée par des instituts strictement nationaux. Les régions moins favorisées sont bien représentées dans les projets, encore que ce soit plutôt par des universités que par des entreprises commerciales.

2.2.4. Gestion du programme

Le groupe a trouvé l'équipe de gestion du programme à la fois professionnelle et très motivée. Les efforts de publicité du programme et de transparence des procédures pour les participants en sont la preuve. Le succès de la gestion peut être jugé par l'augmentation constante du nombre de partenaires et par le fait que le gouvernement américain, dans un programme similaire, suit de près les procédures de BRITE/EURAM.

Le programme est bien suivi et bien supervisé et des études indépendantes sont commandées pour aider à résoudre les problèmes éventuels. Le groupe a cependant repéré certains domaines où des améliorations sont possibles.

2.2.5. Mise en oeuvre des recommandations des évaluations précédentes

Les deux groupes précédents chargés d'évaluer les programmes BRITE et EURAM ont dressé une liste de recommandations destinées à accroître l'impact des activités de R&D sur l'industrie manufacturière communautaire. Elles portent sur trois aspects :

- a) l'approche stratégique,
- b) les modalités,
- c) la gestion.

Du point de vue stratégique, le groupe BRITE a recommandé de fusionner les deux initiatives (BRITE et EURAM) en une activité plus orientée vers le marché, pour faciliter l'application des technologies avancées à tous les secteurs des industries manufacturières. Cette suggestion a été traduite dans les faits par la création du programme BRITE/EURAM, qui met davantage l'accent sur les objectifs industriels de la recherche et sur les retombées des résultats de cette dernière sur la compétitivité. L'introduction de nouvelles règles et de nouveaux critères de sélection davantage axés sur le potentiel d'exploitation a renforcé cette approche.

En ce qui concerne les modalités, trois propositions essentielles ont été faites, à savoir un appel de propositions annuel, une participation accrue des PME et une définition plus précise de la recherche précompétitive. Elles ont toutes été intégralement suivies. Pour ce qui est de la participation des PME, deux initiatives particulières ont été lancées, à savoir le système de primes de faisabilité attribuées aux entreprises qui veulent prouver leurs capacités de recherche et la viabilité de leurs projets, et les actions CRAFT (au nombre de trois pour l'instant) pour les PME qui sont intéressées par les résultats de la recherche qu'elles ne peuvent effectuer elles-mêmes.

Quant à la gestion, les deux groupes ont manifesté le besoin de simplifier les procédures et ils ont proposé à la Commission d'étudier la possibilité de décentraliser la gestion pour ne conserver qu'une petite équipe de fonctionnaires scientifiques. La Commission a donc adopté des règles de négociation plus simples et lancé une action pilote pour la supervision

technique des projets. Aujourd'hui, plus de 200 de ceux-ci sont contrôlés par des réviseurs techniques (PTA) extérieurs.

Le tableau figurant à l'annexe 4.7 indique les recommandations essentielles et les actions correspondantes qui ont été adoptées par la Commission. Elles sont classées suivant les différentes phases du programme.

2.2.6. Conclusions générales

Le groupe affirme, sans hésiter que le programme BRITE/EURAM a été un véritable succès. Un pourcentage élevé de projets ont atteint leurs objectifs techniques et scientifiques et, dans la plupart des domaines, la Commission semble avoir géré ces activités avec efficacité et enthousiasme. Cette impression est confirmée par les nombreux contacts et entrevues qui ont eu lieu avec les représentants des gouvernements et les participants aux projets pendant l'évaluation. Beaucoup ont déclaré que BRITE/EURAM est l'un des programmes les plus fructueux de la Commission en matière de R&D, point de vue que le groupe partage.

2.3. Problèmes actuels et éventuels

Conformément aux objectifs de l'Acte Unique européen et aux recommandations des rapports d'évaluation précédents, BRITE/EURAM a évolué vers une recherche plus "commerciale". Ce changement de cap associé à un effort promotionnel soutenu s'est traduit par une forte augmentation du nombre des demandes de participation.

Cette réorientation et cette multiplication des candidats potentiels risquent de compromettre le succès du programme. Si la situation reste inchangée, il faut prévoir une crise éventuelle au niveau de l'équipe de gestion du programme, qui sera contrainte de traiter une avalanche de propositions. Cette situation risque même d'empirer avec l'élargissement de la participation au programme communautaire, et, si cette participation n'est pas contrôlée, elle risque de favoriser l'évolution vers une recherche plus commerciale. Dès lors, BRITE/EURAM serait beaucoup plus en concurrence avec EUREKA qu'il ne l'est aujourd'hui. En l'absence d'augmentation substantielle des subventions, cette évolution entraînerait un taux de rejet très élevé - peut-être supérieur à 95 % - qui pourrait avoir des conséquences néfastes.

On pourrait penser que certains de ces déséquilibres fondamentaux sont dus à une divergence progressive du programme. BRITE/EURAM essaie peut-être d'atteindre simultanément plusieurs objectifs qui, tout en étant individuellement bons, sont d'une certaine manière incompatibles. Par exemple :

- le programme est destiné à favoriser la "recherche précompétitive", mais des pressions politiques compréhensibles s'exercent pour qu'il produise des résultats économiques immédiats;
- le programme soutient de plus en plus les projets de PME, mais il ne faut pas qu'il ait une orientation trop commerciale, ce qui est cependant la préoccupation essentielle de la majorité des PME;
- le programme est supposé favoriser la cohésion européenne, alors qu'il doit en même temps sélectionner des projets sur des critères exclusivement techniques et scientifiques.

- tout en élargissant son soutien aux PME, le programme ne peut apporter qu'une contribution très limitée au développement technologique des PME européennes. Les 436 participants au programme BRITE/EURAM représentent environ 0,025 % d'une "population" totale estimée à 1,7 million de PME;
- certains Etats membres semblent faire de plus en plus pression pour obtenir un "juste retour" (c'est-à-dire une subvention communautaire pour le projet égale à la contribution nationale au programme). Même l'accord tacite de la Communauté sur un tel concept pourrait engendrer de graves conflits au niveau de la sélection et diminuerait inévitablement la qualité des projets de recherche futurs.

Ainsi, les problèmes que pose et que risque de poser BRITE/EURAM nécessitent un examen minutieux; les recommandations suivantes devraient servir de fondement logique à cet examen.

2.4. Recommandations

Le groupe a choisi de classer les recommandations en deux catégories, à savoir les recommandations politiques et les recommandations structurelles. Les premières portent sur la révision générale de l'organisation et de l'objectif du programme, tandis que les secondes visent à peaufiner certains aspects de sa gestion et de sa mise en oeuvre.

2.4.1. Recommandations politiques

1. Vu le succès croissant de BRITE/EURAM et le nombre grandissant de propositions et de demandes de subventions, la Commission risque de se voir contrainte d'envisager une augmentation des subventions, ne serait-ce que pour maintenir un taux d'acceptation viable. Même dans ce cas, le groupe propose une révision substantielle des principaux éléments du programme, qui permette en même temps de répondre aux critères de la subsidiarité (cf. annexe 4.6). Par ailleurs, l'examen rationnel des méthodes de renforcement de la compétitivité de l'industrie européenne indique que BRITE/EURAM devrait dorénavant se recentrer sur la recherche précompétitive en dépit de la vive opposition de nombreux participants de l'industrie, notamment les PME. Parmi les changements possibles, le groupe recommande :

- de réduire le nombre de domaines de recherche;
- de donner plus de poids aux technologies générales et d'accorder plus de subventions à la recherche stratégique, par opposition à la recherche purement appliquée; (cf. annexe 4.6 pour les définitions);
- d'appliquer plus strictement les critères de précompétitivité;
- d'introduire la possibilité de moduler les subventions.

On soulignera que BRITE/EURAM est destiné à soutenir les efforts de recherche de l'industrie, et que la présence dans les équipes de recherche des producteurs et des utilisateurs des technologies qu'elles sont chargées de mettre au point doit être encouragée.

2. Si, comme on vient de le suggérer, la recherche financée par la Communauté dans les domaines couverts par BRITE/EURAM devait devenir plus stratégique et portait davantage sur les technologies de base, tout en tenant compte également des problèmes de participation des PME à l'actuel programme BRITE/EURAM, les besoins des PME seraient, selon le groupe, beaucoup mieux satisfaits par une initiative séparée. Pour cela, la Commission doit étudier la manière d'étendre le champ d'application de l'actuel programme CRAFT. Par ailleurs, elle doit créer une structure administrative qui à la fois favorise la recherche coopérative parmi les PME au niveau national et puisse aider les entreprises, et, le cas échéant, les organisations nationales, à promouvoir la participation des PME à un programme communautaire spécial.

3. Le montant limite des projets – égal à 5 millions d'écus – doit être revu, afin de définir des règles d'acceptation pour les projets les plus importants.

4. Le groupe, après avoir examiné un certain nombre d'aspects concernant les liens entre BRITE/EURAM et d'autres programmes, préconise :

- le contrôle permanent de la coordination entre BRITE/EURAM et les actions parallèles, comme ESPRIT. L'intégration de CIM à BRITE/EURAM contribuerait largement à résoudre les éventuels problèmes de coordination;
- la prise en charge des projets BRITE/EURAM réussis qui ont un potentiel de développement, ce qui pourrait aider les participants qui sont à la recherche d'autres financements, notamment dans le cas d'une demande de participation à EUREKA;
- une meilleure définition de la relation BRITE/EURAM – VALUE en tenant compte de la question de la subsidiarité. La Commission doit examiner les moyens de renforcer le rôle de VALUE comme point de référence pour les Etats membres. La responsabilité de la divulgation des informations sur les résultats des projets, ainsi que la promotion et le financement d'activités en aval telles que la mise au point de prototypes doivent être laissée aux gouvernements.

5. La Commission doit fortement résister à toute pression des Etats membres demandant l'application des principes de "juste retour" à leur participation nationale à BRITE/EURAM ou à ses successeurs.

6. Les protocoles concernant la publication des résultats des projets doivent être révisés. Tout en admettant la divulgation des recherches subventionnées ne doit pas faire l'objet de restrictions, le groupe recommande que, en raison de la confidentialité industrielle de certains résultats, les participants de l'industrie aient le droit, en accord avec leurs partenaires de projet, de demander le report de la publication après une période strictement limitée qui ne pourrait être supérieure à 18 mois. Par ailleurs, le groupe est favorable à toute initiative de la Commission destinée à encourager la protection industrielle des résultats des projets. La Commission doit maintenir le droit de publier des résumés des travaux en cours.

2.4.2. Recommandations structurelles

1. Le principe actuel des appels de propositions périodiques est un obstacle artificiel au développement harmonieux des idées de projets et une charge inutile pour le personnel de BRITE/EURAM. Le groupe recommande que cette méthode soit remplacée, dans la limite des budgets existants, par un "appel ouvert".

2. La Commission doit envisager d'autres mesures pour transférer certains aspects de la gestion du programme à des personnes physiques ou morales indépendantes tout en conservant la responsabilité des décisions finales. A cet égard, on pourrait, par exemple, décentraliser la préparation et la négociation des contrats moyennant un financement approprié.
3. La promotion du programme par la publicité et d'autres mesures doit être mieux adaptée aux différents niveaux de sensibilisation dans les différents pays. Par ailleurs, les dépenses totales doivent être en rapport avec les fonds disponibles du programme. Une plus large publicité entraînera, dans les circonstances actuelles, un taux de rejet plus élevé.
4. Les orientations applicables aux gestionnaires et, le cas échéant, à leur formation à la gestion des projets doivent recevoir la priorité de façon à ce que leur intervention respecte un degré de qualité élevé et équilibré et un niveau élémentaire de neutralité et d'indépendance. Le groupe recommande que ces orientations soient mises à la disposition des participants au projet.
5. Les règles de la Commission qui régissent le paiement des fonds alloués doivent être réexaminées pour permettre aux participants d'imputer les dépenses subventionnables qu'ils ont engagées depuis la sélection du projet.
6. De nombreux partenaires industriels, notamment les PME, sont réticents à assurer le rôle de contractant principal en raison de l'effort de gestion que cela nécessite. La Commission doit donc étudier s'il faut augmenter la compensation financière attachée à cette mission.
7. La Commission doit veiller à ce que les crédits soient versés avec moins de retard.
8. Si, pour des raisons d'ordre technique ou financier, le taux global de rejet augmente, il serait souhaitable d'adopter une sélection en deux étapes. La solution qu'étudie déjà l'équipe de gestion BRITE/EURAM consisterait à permettre aux candidats en puissance de soumettre à la Commission un descriptif sommaire du projet de recherche, de sorte qu'il puisse y avoir une première réaction.

2. Π Ε Ρ Ι Λ Η Ψ Η

Η Περίληψη χωρίζεται σε τέσσερα κεφάλαια:

- . Περίληψη του προγράμματος BRITE/EURAM.
- . Επιτεύξεις του προγράμματος BRITE/EURAM.
- . Διαγραφόμενα θέματα και ενδεχόμενα προβλήματα.
- . Συστάσεις.

2.1 Περίληψη του προγράμματος BRITE/EURAM

Βασικός στόχος του προγράμματος BRITE/EURAM 1989-92 είναι η βελτίωση της ανταγωνιστικής θέσης των κατασκευαστικών βιομηχανικών κλάδων της Κοινότητας. Μεταξύ των στόχων συγκαταλέγεται η διασυννοριακή συνεργασία στον τομέα της βιομηχανικής έρευνας στρατηγικού χαρακτήρα και τη μεταφορά των τεχνολογιών μεταξύ των εσωτερικών κοινοτικών συνόρων και των επιμέρους κλάδων, ιδιαίτερα μάλιστα εκείνων στους οποίους απθονούς οι ΜΜΕ.

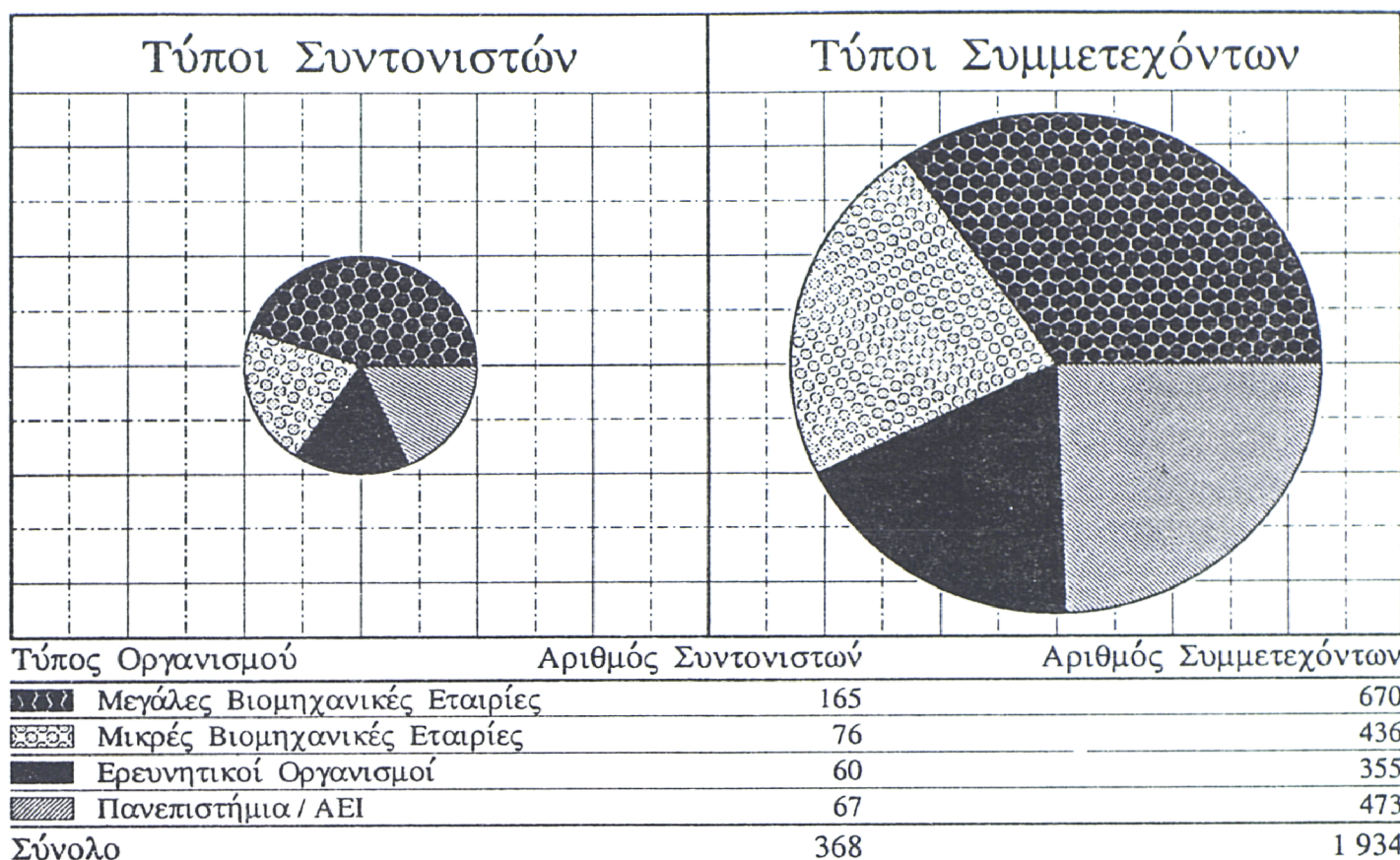
Το πρόγραμμα καλύπτει πέντε τομείς που ομαδοποιούνται σε δύο σκέλη:

- Τομείς 1 έως 4 οι οποίοι καλύπτουν τις εργασίες σχετικά με: τις τεχνολογίες προηγμένων υλικών, τη μεθοδολογία σχεδιασμού και την ασφάλεια των προϊόντων και των διαδικασιών, την εφαρμογή των κατασκευαστικών τεχνολογιών και τις τεχνολογίες των κατασκευαστικών διαδικασιών.
- Τομέας 5: Αεροναυτική. (Η αξιολόγηση της διετούς πειραματικής δράσης έχει ανατεθεί σε χωριστή επιτροπή ανεξάρτητων εμπειρογνομόνων σύμφωνα με το άρθρο 4 της απόφασης του Συμβουλίου. Τα αποτελέσματά της συνοψίστηκαν χωριστά σε προηγούμενη έκθεση με τίτλο: αξιολόγηση της έρευνας - έκθεση αριθ. 46 EUR 13524).

Ο συνολικός προϋπολογισμός ανέρχεται σε 499.5 εκατομμύρια ECU εκ των οποίων 440 εκατ. ECU διατίθενται για 368 έργα.

Η κλίμακα και το είδος συμμετοχής στο πρόγραμμα αυτό έχουν ως εξής:

ΚΡΑΤΗ ΜΕΛΗ	B	DK	F	D	G	IR	I	L	NL	P	E	UK	Σύνο- λο
Έδρα των συντονιστών	21	16	71	67	6	8	40	3	27	7	16	86	368
Έδρα συμ- μετεχόντων	118	67	379	377	65	49	198	5	102	78	132	364	1934



Πίνακας 1 : Διανομή συμμετεχόντων

CEC / XII / EGRO GRPW.442 / 06.02.93

Ορισμένα άλλα ενδιαφέροντα χαρακτηριστικά του προγράμματος συνοψίζονται ως εξής:

Ημερομηνία της απόφασης του Συμβουλίου : 14.03.89

Επιλογή των έργων : 29.06.89

Υπογραφή της πρώτης σύμβασης έργου: Οκτώβριος 1989

Υπογραφή της τελευταίας σύμβασης έργου: Οκτώβριος 1990

Τυπικό μέγεθος των συμβάσεων έργου: 2,3 εκατ. ECU

Τυπική διάρκεια : 36 μήνες

Αριθμός διασκέψεων: 50 ετησίως

Αριθμός επιστημονικών εγγράφων: 180 ετησίως

Η εφαρμογή του προγράμματος χαρακτηρίστηκε από τα εξής κύρια στάδια ή στοιχεία:

- Ταυτοποίηση των θεμάτων προτεραιότητας μετά από διαβουλεύσεις με τη βιομηχανία, λαμβάνοντας υπόψη τα στρατηγικά συμφέροντα των κοινοτικών και των ευρωπαϊκών εταιρειών.
- Δύο προσκλήσεις υποβολής προτάσεων (1989-1990).
- Επιλογή έργων (από 1304 προτάσεις επελέγησαν 368 με 55% βιομηχανική συμμετοχή, συμπεριλαμβανομένων των ΜΜΕ σε ποσοστό 22%, των πανεπιστημίων σε ποσοστό 24% και των ερευνητικών κέντρων σε ποσοστό 21%).

Πέραν των δράσεων επιμερισμένου κόστους που αντιστοιχούσαν περίπου σε 425 εκατ. ECU για τους τομείς 1 έως 4, έως τα τέλη του 1990, και σε περίπου 65 εκατ. ECU για τον τομέα 5, εκτελέστηκαν πολλές συντονισμένες δράσεις με επιτυχία όπως για παράδειγμα η Συντονισμένη Ευρωπαϊκή Δράση για τους Μαγνήτες (CEAM), καθώς και δράσεις που αφορούσαν πρωτίστως τις ΜΜΕ και την Ευρωπαϊκή Ερευνητική Εταιρεία Υλικών (EMRS). Ωστόσο η ανωτέρω ανάλυση δεν περιλαμβάνει την συμμετοχή των χωρών της ΕΖΕΣ.

Πέραν της συστηματικής συμμετοχής των συμβουλευτικών φορέων (CAN, IRDAC), ανατέθηκαν σε εξωτερικούς φορείς πολυάριθμες μελέτες (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick) διαχειριστικά να ασκηθεί αποτελεσματική διεύθυνση και έλεγχο του προγράμματος.

2.2 Επιτεύγματα του προγράμματος BRITE/EURAM

Στόχος του προγράμματος BRITE/EURAM ήταν η αύξηση της ανταγωνιστικότητας της Ευρωπαϊκής Βιομηχανίας. Ο στόχος αυτός ως επί το πλείστον επετεύχθη με το συνδυασμό άμεσων και έμμεσων ωφελειών συνεπεία του προγράμματος.

2.2.1 Άμεσα αποτελέσματα

Το BRITE/EURAM μπορεί να θεωρηθεί επιτυχημένο δεδομένου ότι:

- υψηλό ποσοστό ολοκληρωμένων έργων (υψηλότερο του 70%), επέτυχαν "πλήρως" ή "ως επί το πλείστον" τους τεχνολογικούς τους στόχους.
- η τεχνολογική επιτυχία αναμένεται να μεταφραστεί σε βελτίωση της ανταγωνιστικής θέσης των εταιρειών που συμμετείχαν σε περίπου 75% των περιπτώσεων πράγμα το οποίο με την σειρά του αποτελεί υψηλή επίδοση για την προ-ανταγωνιστική Ε&Α.

Από την παρούσα έκθεση καθίσταται σαφές ότι τα έργα BRITE/EURAM θα προσφέρουν σημαντική απόδοση των επενδύσεων που έχουν αντίστοιχα πραγματοποιήσει οι συμμετέχουσες εταιρείες.

2.2.2. Έμμεσα αποτελέσματα

Το πρόγραμμα BRITE/EURAM προσέφερε στις συμμετέχουσες εταιρείες, και ιδιαίτερα τις ΜΜΕ, άλλα οφέλη τα οποία επίσης αυξάνουν την ανταγωνιστικότητά τους. Μεταξύ αυτών συγκαταλέγονται:

- η συγκρότηση ενός πολυτίμου δικτύου επαφών. (Επί του συνόλου των εταιρειών που συμμετείχαν ποσοστό υψηλότερο από το 80% προτίθεται να εξακολουθήσει τις συνεργασίες με τους εταίρους των έργων τους κατά το μέλλον και μετά την περάτωση του έργου.)
- οργανωτικές γνώσεις. (Ανάλογες εξελίξεις παρατηρήθηκαν στα περισσότερα σε ποσοστό υψηλότερο των δύο τρίτων των εταιρειών.)
- διεθνή έκθεση η οποία, στην περίπτωση πολλών ΜΜΕ, αποδείχθηκε επωφελής και θα ήταν αδύνατο να επιτευχθεί εκτός του πλαισίου του εκάστοτε έργου.
- κλιμάκωση της δικτύωσης μεταξύ των πανεπιστημίων και των βιομηχανιών σε ολόκληρη την Ευρώπη.

Τέλος η εισαγωγή του CRAFT αποτέλεσε περαιτέρω σημαντικό στοιχείο υπέρ της κλιμάκωσης της ανταγωνιστικότητας των Ευρωπαϊκών ΜΜΕ.

2.2.3 Συνοχή

Το πρόγραμμα BRITE/EURAM συνέβαλε στην κλιμάκωση της συνοχής στην Ευρώπη διευκολύνοντας τη διεθνή συνεργασία με όλα τα οφέλη που αυτή συνεπάγεται. Θα ήταν εντελώς αδύνατο να θεωρηθεί ότι ανάλογα οφέλη θα μπορούσαν να επιτευχθούν εάν η έρευνα είχε χρηματοδοτηθεί αποκλειστικά και μόνο από εθνικά ινστιτούτα. Οι ολιγώτερο ευνοούμενες περιοχές εκπροσωπούνται δεόντως στα έργα μολονότι η συμμετοχή των πανεπιστημίων τείνει να είναι μεγαλύτερη από των εμπορικών επιχειρήσεων.

2.2.4 Διαχείριση του προγράμματος

Η Επιτροπή διαπίστωσε ότι η διαχείριση του προγράμματος ήταν επαγγελματική και ιδιαιτέρως ευσυνείδητη. Αυτό φαίνεται από τις προσπάθειες που καταβλήθηκαν για τη διαφήμιση του προγράμματος καθώς και τις προσπάθειες που αποσκοπούσαν στη διαδικαστική διευκόλυνση των συμμετεχόντων. Η επιτυχία του μπορεί να μετρηθεί από την συνεχή αύξηση των συμμετεχόντων και από το γεγονός ότι η κυβέρνηση των Ηνωμένων Πολιτειών ακολούθησε παρεμφερείς διαδικασίες προς τις χρησιμοποιηθείσες για το BRITE/EURAM κατά την εφαρμογή αναλόγου προγράμματος.

Κατά τη διάρκειά του το πρόγραμμα παρακολουθείται και ελέγχεται προσεκτικά με την ανάθεση ανεξαρτήτων μελετών για την επίλυση των προβλημάτων που ενδέχεται να προκύψουν. Εν τούτοις, η επιτροπή επισήμανε ορισμένους τομείς στους οποίους θα ήταν δυνατόν να επέλθουν περαιτέρω βελτιώσεις.

2.2.5 Εκτέλεση των συστάσεων προηγούμενων αξιολογήσεων

Οι δύο προηγούμενες επιτροπές που επωμίστηκαν την αξιολόγηση των προγραμμάτων BRITE και EURAM κατάρτισαν κατάλογο συστάσεων για τη βελτίωση των επιπτώσεων των δραστηριοτήτων Ε&Α στην κοινοτική βιομηχανία μεταποίησης. Οι συστάσεις αφορούσαν τρεις διαφορετικές πτυχές των προγραμμάτων.

- α) τη στρατηγική προσέγγιση
- β) τις διαδικασίες
- γ) τη διαχείριση

Όσον αφορά τη στρατηγική η επιτροπή του BRITE συνέστησε τη συγχώνευση των δύο προγραμμάτων (BRITE και EURAM) σε μία δραστηριότητα προσανατολισμένη προς την αγορά με στόχο τη διευκόλυνση της εφαρμογής των προηγμένων τεχνολογιών σε όλους τους κλάδους της μεταποιητικής βιομηχανίας. Οι εν λόγω προτάσεις εκτελέστηκαν πλήρως με την δημιουργία του προγράμματος BRITE/EURAM στο πλαίσιο του οποίου αποδίδεται μεγαλύτερη έμφαση στους βιομηχανικούς στόχους της έρευνας και στις επιπτώσεις των αποτελεσμάτων στην ανταγωνιστικότητα. Η καθιέρωση νέων κανόνων και κριτηρίων επιλογής με τους οποίους λαμβάνεται περισσότερο υπόψη το δυναμικό εκμετάλλευσης ενίσχυσαν την προσέγγιση αυτή.

Όσον αφορά τις εφαρμογές, διατυπώθηκαν τρεις κύριες προτάσεις: ετήσια πρόσκληση υποβολής προτάσεων, μεγαλύτερη συμμετοχή των ΜΜΕ και σαφέστερος προσδιορισμός της προ-ανταγωνιστικής έρευνας. Οι προτάσεις αυτές υλοποιήθηκαν πλήρως. Όσον αφορά τη συμμετοχή των ΜΜΕ, εγκαινιάστηκαν δύο ειδικές πρωτοβουλίες. Αυτές είναι τα έπαθλα σκοπιμότητας για τις ΜΜΕ που επιθυμούν να αποδείξουν τις ικανότητές τους και τη βιωσιμότητα των ερευνητικών τους ιδεών και οι δράσεις CRAFT για τις ΜΜΕ (τρεις έως σήμερα) που ενδιαφέρονται για ερευνητικά αποτελέσματα δίχως να διαθέτουν πραγματικές ερευνητικές δυνατότητες.

Όσον αφορά τα θέματα διαχείρισης του προγράμματος, οι επιτροπές εξέφρασαν την άποψη ότι είναι απαραίτητο να απλοποιηθούν οι διαδικασίες και πρότεινε στην Επιτροπή να εκμεταλλευθεί τις δυνατότητες αποκεντρωμένης διαχείρισης με στόχο τη διατήρηση αποκλειστικά και μόνο μικρής ομάδας επιστημονικών υπαλλήλων. Συνεπεία τούτου η Επιτροπή απλοποίησε τους κανόνες των διαπραγματεύσεων και

εγκαινίασε μία πειραματική δράση για την τεχνική παρακολούθηση των έργων. Σήμερα περισσότερα από 200 έργα παρακολουθούνται από εξωτερικούς τεχνικούς επιθεωρητές έργων (ΡΤΑ).

Στον πίνακα του παραρτήματος 4.7, ανακεφαλαιώνονται οι πλέον σημαντικές συστάσεις και οι αντίστοιχες ενέργειες της Επιτροπής. Η ταξινόμηση πραγματοποιείται ανά ομάδες σύμφωνα με τα διαφορετικά στάδια του προγράμματος.

2.2.6 Γενικά συμπεράσματα

Η επιτροπή είναι πεπεισμένη ότι το πρόγραμμα BRITE/EURAM αποτέλεσε ουσιαστική επιτυχία. Παρατηρήθηκε υψηλό ποσοστό έργων που επέτυχαν τους τεχνικούς και επιστημονικούς στόχους τους και η διαχείριση της Επιτροπής θεωρείται, στους περισσότερους τομείς, αποτελεσματική και ενθουσιώδης. Η εντύπωση αυτή επιβεβαιώθηκε από το ευρύ φάσμα επαφών και συνεντεύξεων με εκπροσώπους κυβερνήσεων και συμμετέχοντες σε έργα κατά τη διάρκεια της αξιολόγησης. Πολλοί εξ αυτών υποστήριξαν ότι το πρόγραμμα BRITE/EURAM αποτελεί ένα από τα πλέον επιτυχή προγράμματα Ε&Α της Επιτροπής και η Επιτροπή συμερίζεται τη συγκεκριμένη άποψη.

2.3 Διαγραφόμενα θέματα και ενδεχόμενα προβλήματα

Το BRITE/EURAM τροποποιήθηκε, σύμφωνα με τους στόχους της ενιαίας ευρωπαϊκής πράξης και τις συστάσεις των προηγούμενων εκθέσεων αξιολόγησης, αναπροσανατολιζόμενο προς την έρευνα "πλησίον της αγοράς". Η μεταβολή αυτή και η έντονη διαφημιστική προσπάθεια οδήγησε στη θεαματική αύξηση του αριθμού των αιτήσεων.

Αυτά τα δύο θέματα, ο ανα-προσανατολισμός προς την αγορά και η αύξηση του αριθμού των αιτήσεων, ενδέχεται να εγγυμονούν κινδύνους για την επιτυχημένη συνέχεια του προγράμματος. Εάν η κατάσταση δεν μεταβληθεί ενδέχεται να υπάρξει διαχειριστική κρίση του προγράμματος δεδομένου ότι οι αρμόδιοι υπάλληλοι είναι υποχρεωμένοι να αντιμετωπίζουν μία χιονοστιβάδα προτάσεων. Η κατάσταση ενδέχεται να γίνει ακόμη δυσκολότερη όταν η πρόσβαση στα κοινοτικά προγράμματα διευρυνθεί και χαλαρωθούν οι σχετικοί έλεγχοι πράγμα το οποίο θα μπορούσε να οδηγήσει στην ενίσχυση της τάσης για έρευνα πλησίον της αγοράς. Ως εκ τούτου το πρόγραμμα BRITE/EURAM θα ανταγωνιζόταν περισσότερο άμεσα το EUREKA από ότι σήμερα. Ανάλογες εξελίξεις δίχως ουσιαστική αύξηση των κονδυλίων θα μπορούσαν να οδηγήσουν σε εξαιρετικά υψηλά ποσοστά απόρριψης, ίσως μεγαλύτερα του 95%, με ανεπιθύμητες επιπτώσεις.

Μπορεί να υποστηριχθεί ότι ορισμένες απ' τις βασικές ανισορροπίες οφείλονται στη σταδιακή μεταβολή της εστίασης του προγράμματος. Το πρόγραμμα ενδεχομένως αναλώνεται σε μία προσπάθεια επιτυχίας παραλλήλων στόχων οι οποίοι μολονότι χωριστά θεωρούνται εύλογοι είναι εν μέρει ασυμβίβαστοι μεταξύ τους. Για παράδειγμα:

- το πρόγραμμα αποσκοπεί στην ενίσχυση της "προ-ανταγωνιστικής έρευνας" αλλά αντιμετωπίζει κατανοητή πολιτική πίεση για επίτευξη άμεσων οικονομικών αποτελεσμάτων.
- το πρόγραμμα υποστηρίζει τα έργα που αφορούν τις ΜΜΕ ολοένα περισσότερο έχοντας παράλληλα την υποχρέωση να μην προσεγγίσει ιδιαίτερα την αγορά πράγμα το οποίο ωστόσο αποτελεί πρώτιστο ενδιαφέρον για την πλειονότητα των ΜΜΕ.
- το πρόγραμμα υποτίθεται ότι συμβάλει στην ευρωπαϊκή συνοχή, καλείται εντούτοις να συμβιβάσει το στόχο αυτό με την εντολή επιλογής προγραμμάτων αποκλειστικά και μόνο βάσει των τεχνικών και επιστημονικών τους προσόντων.

- παρά την αυξανόμενη ενίσχυση προς τις ΜΜΕ, το πρόγραμμα δύναται να συμβάλει ελάχιστα στην ανάπτυξη των τεχνολογικών ικανοτήτων των ευρωπαϊκών ΜΜΕ. Οι 436 συμμετέχοντες στο πρόγραμμα BRITE/EURAM αντιπροσωπεύουν περίπου 0,025% επί του συνόλου των 1.7 εκατ. ΜΜΕ.
- κατά τα φαινόμενα αυξάνει η πίεση εκ μέρους ορισμένων κρατών μελών για "juste retour" (έννοια σύμφωνα με την οποία τα κονδύλια που λαμβάνει για την ενίσχυση του προγράμματος ένα κράτος μέλος ισοδυναμεί με την εθνική συμμετοχή του στο πρόγραμμα). Ακόμη και η σιωπηρή αποδοχή αυτής της αρχής εκ μέρους της κοινότητας θα μπορούσε να οδηγήσει σε σοβαρές διαμάχες στη διαδικασία επιλογής υπονομεύοντας αναπόφευκτα την ποιότητα των μελλοντικών έργων έρευνας.

Κατά συνέπεια συντρέχουν σοβαροί λόγοι για τη σε βάθος αναθεώρηση των εν λόγω θεμάτων και των πιθανών προβλημάτων του προγράμματος BRITE/EURAM, οι συστάσεις που ακολουθούν διατυπώνονται ως λογικό υπόβαθρο για την αναθεώρηση αυτή.

2.4 Συστάσεις

Η επιτροπή αποφάσισε να διαχωρίσει τις συστάσεις σε δύο τμήματα – πολιτική και οργάνωση. Οι συστάσεις περί πολιτικής αφορούν τις ουσιαστικές αναθεωρήσεις της διάρθρωσης και των στόχων του προγράμματος, οι οργανωτικές συστάσεις αφορούν τις αναπτυξιακές βελτιώσεις ορισμένων πτυχών της διαχείρισης και της εφαρμογής του προγράμματος.

2.4.1 Συστάσεις πολιτικής

1. Ενόψει της κλιμακούμενης επιτυχίας του BRITE/EURAM, του αυξανόμενου αριθμού προτάσεων και αιτήσεων πόρων η Επιτροπή ενδέχεται να υποχρεωθεί να εξετάσει το ενδεχόμενο αύξησης των παρεχόμενων κονδυλίων προκειμένου το ποσοστό έγκρισης να εξακολουθήσει να κυμαίνεται σε αποδεκτά επίπεδα. Ακόμη και στην περίπτωση αυτή, η επιτροπή προτείνει ουσιαστική αναθεώρηση των καθοριστικής σημασίας χαρακτηριστικών του προγράμματος η οποία παράλληλα να εξασφαλίζει την ικανοποίηση των κριτηρίων περί επικουρικότητας (βλέπε παράρτημα 4.6). Επιπλέον η λογική αποτίμηση των μέσων στήριξης της ανταγωνιστικότητας της ευρωπαϊκής βιομηχανίας υποδεικνύει ότι κατά το μέλλον το BRITE/EURAM θα πρέπει να επικεντρώσει το ενδιαφέρον του στο προ-ανταγωνιστικό στάδιο όπως συνέβη στο παρελθόν. Η απόφαση αυτή επιβάλλεται να ληφθεί παρά την έντονη υποστήριξη αντιθέτων απόψεων εκ μέρους πολλών βιομηχανικών συμμετεχόντων και ιδιαίτερα πολλών ΜΜΕ. Μεταξύ των εναλλακτικών λύσεων για την μεταβολή αυτή η επιτροπή συνιστά:

- να μην αρθεί ο αριθμός των ερευνητικών πεδίων.
- να δοθεί μεγαλύτερη έμφαση στις γενικές τεχνολογίες, και μεγαλύτερο ποσοστό των κονδυλίων να διοχετευθεί στην έρευνα στρατηγικού χαρακτήρα αντί της εφαρμοσμένης έρευνας, (βλέπε παράρτημα 4.6 για ορισμούς).
- να εφαρμοσθούν με μεγαλύτερη αυστηρότητα τα κριτήρια προ-ανταγωνιστικότητας.
- να καθιερωθούν ελαστικά επίπεδα χρηματοδοτικής στήριξης

Επιβάλλεται να τονισθεί ότι το πρόγραμμα BRITE/EURAM είναι αφιερωμένο στην υποστήριξη των ερευνητικών προσπαθειών της βιομηχανίας και ως εκ τούτου επιβάλλεται να ενθαρρυνθεί η περαιτέρω ανάπτυξη της παρουσίας των παραγωγών και των χρηστών των τεχνολογιών στην ερευνητική ομάδα.

2. Αν, όπως προτάθηκε ανωτέρω, η χρηματοδοτούμενη από την Κοινότητα έρευνα στους τομείς που καλύπτει το πρόγραμμα BRITE/EURAM αποκτήσει στρατηγικότερο χαρακτήρα κατά το μέλλον και επικεντρωθεί στις γενικές τεχνολογίες, και λαμβάνοντας υπόψη της τις δυσκολίες της συμμετοχής των ΜΜΕ στο υφιστάμενο πρόγραμμα BRITE/EURAM, η επιτροπή θεωρεί ότι οι ανάγκες των ΜΜΕ θα εξυπηρετούντο καλύτερα από μία χωριστή πρωτοβουλία. Προς τούτο η Επιτροπή πρέπει να εξετάσει τις δυνατότητες διεύρυνσης του πεδίου του ήδη υφιστάμενου προγράμματος CRAFT. Επιπλέον η Επιτροπή θα πρέπει να συγκροτήσει διοικητικό φορέα προαγωγής των ερευνητικών συνεργασιών μεταξύ ΜΜΕ σε εθνικό επίπεδο και να είναι σε θέση να προσφέρει αρωγή στις εταιρείες, και τους εθνικούς οργανισμούς όταν κρίνεται απαραίτητο, όσον αφορά την προώθηση της συμμετοχής των ΜΜΕ σε ένα κοινοτικό ειδικό πρόγραμμα.
3. Το όριο των 5 εκατ. ECU που ισχύει σήμερα όσον αφορά την κλίμακα των έργων πρέπει να επανεξετασθεί με προοπτική να καθορισθούν κανόνες αποδοχής μεγαλύτερων έργων.
4. Η επιτροπή αφού εξέτασε ορισμένα θέματα όσον αφορά τη σχέση μεταξύ BRITE/EURAM και άλλων προγραμμάτων συνιστά:
 - τη συνεχή παρακολούθηση του συντονισμού μεταξύ του προγράμματος BRITE/EURAM και των παραλλήλων δραστηριοτήτων όπως το ESPRIT. Κατά την άποψη της επιτροπής η ένταξη του CIM στο BRITE/EURAM θα αποτελούσε σημαντικό βήμα αντιμετώπισης των ενδεχομένων προβλημάτων συντονισμού.
 - τα επιτυχή έργα του BRITE/EURAM που προσφέρουν δυνατότητες περαιτέρω ανάπτυξης πρέπει να επισημαίνονται χωριστά προκειμένου να διευκολυνθούν οι συμμετέχοντες στην αναζήτηση περαιτέρω χρηματοδότησης ιδιαίτερα στην περίπτωση εφαρμογών τους στο EUREKA.
 - να προσδιορισθεί σαφέστερα η σχέση μεταξύ BRITE/EURAM και προγράμματος VALUE λαμβάνοντας υπόψη τα ζητήματα επικουρικότητας. Η Επιτροπή θα ήταν σκόπιμο να εξετάσει τρόπους ενίσχυσης του ρόλου που διαδραματίζει το VALUE ως κεντρικό σημείο αναφοράς για τα κράτη μέλη. Η αρμοδιότητα της διάθεσης των πληροφοριών όσον αφορά τα αποτελέσματα των έργων, και η προαγωγή για χρηματοδότηση κατιουσών δραστηριοτήτων όπως η ανάπτυξη πρωτοτύπων θα ήταν σκόπιμο να αφεθεί στις επιμέρους κυβερνήσεις.
5. Η Επιτροπή επιβάλλεται να προβάλει σθεναρή αντίσταση σε οιασδήποτε πίεσεις εκ μέρους των κρατών μελών για εφαρμογή των αρχών της "juste retour" στην ανάπτυξη των εθνικών συμμετοχών τους στο BRITE/EURAM ή στα διάδοχα προγράμματά του.
6. Επιβάλλεται να αναθεωρηθούν τα πρωτόκολλα δημοσίευσης των αποτελεσμάτων των έργων. Η Επιτροπή μολονότι υποστηρίζει την άποψη ότι η σύνταξη εκθέσεων σχετικά με την έρευνα δημόσιας χρηματοδότησης επιβάλλεται να μην περιορισθεί, συνιστά, λαμβάνοντας υπόψη τον εμπιστευτικό χαρακτήρα ορισμένων αποτελεσμάτων για τη βιομηχανία, οι βιομηχανικοί φορείς που συμμετέχουν στο πρόγραμμα να έχουν το δικαίωμα, κατόπιν συμφωνίας με τους υπόλοιπους συμμετέχοντες στο συγκεκριμένο έργο, να ζητούν για αυστηρά περιορισμένη περίοδο την καθυστέρηση της δημοσίευσης. Ανάλογοι περιορισμοί δεν θα πρέπει να υπερβαίνουν τους 18 μήνες. Επιπλέον η επιτροπή χαιρετίζει την πρωτοβουλία της Επιτροπής που αποσκοπεί στην υποστήριξη της χορήγησης διπλωμάτων ευρεσιτεχνίας βάσει των αποτελεσμάτων των έργων. Η Επιτροπή θα πρέπει να διατηρήσει το δικαίωμα συνοπτικής δημοσίευσης των εκτελούμενων ερευνών.

2.4.2 Οργανωτικές συστάσεις

1. Η ακολουθούμενη τακτική των περιοδικών προσκλήσεων υποβολής προτάσεων αποτελεί τεχνητό περιορισμό της ομαλής εξέλιξης των ιδεών που αφορούν τα έργα και περιττό βάρος για το προσωπικό που ασχολείται με τα έργα του BRITE/EURAM. Η επιτροπή συνιστά την αντικατάσταση της διαδικασίας αυτής, στα πλαίσια των δημοσιονομικών δεσμεύσεων, από μία "Ανοιχτή Πρόσκληση".

2. Η Επιτροπή επιβάλλεται να εξετάσει το ενδεχόμενο λήψης περαιτέρω μέτρων για την ανάθεση ορισμένων θεμάτων της διαχείρισης του προγράμματος σε ανεξάρτητους οργανισμούς ή άτομα με σύναψη αντιστοίχων συμβάσεων, διατηρώντας εντούτοις την εξουσία της λήψης τελικών αποφάσεων. Προς τούτο μία δυνατότητα θα ήταν η αποκέντρωση των αρμοδιοτήτων προπαρασκευής και διαπραγμάτευσης των συμβάσεων έργου με την πρόβλεψη κατάλληλης χρηματοδότησης.
3. Η προαγωγή του προγράμματος μέσω της διαφήμισης και της λήψης άλλων μέτρων θα πρέπει να συσχετισθεί καλύτερα με την δημοσιότητα που το πρόγραμμα απολαμβάνει στις διάφορες χώρες. Επιπλέον οι συνολικές δαπάνες θα πρέπει να έχουν μία λογική σχέση με τα διαθέσιμα κονδύλια του προγράμματος. Η κλιμάκωση της διαφήμισης υπό τις παρούσες συνθήκες οδηγούσε σε μεγαλύτερα ποσοστά απόρριψης.
4. Στις οδηγίες για τα διευθυντικά στελέχη και, όπου προβλέπεται την επιμόρφωση στη διαχείριση έργων επιβάλλεται να δοθεί προτεραιότητα προκειμένου να εξασφαλισθεί η διατήρηση εξισορροπημένων υψηλών επιπέδων ποιότητας και κοινά πρότυπα ουδετερότητας και ανεξαρτησίας όσον αφορά την παρέμβαση στα έργα. Η επιτροπή συνέστησε να υποδεικνύονται στους συμμετέχοντες ανάλογες κατευθυντήριες γραμμές.
5. Οι κανόνες της Επιτροπής που διέπουν τις πληρωμές χρηματοδότησης εκάστου έργου πρέπει να επανεξεταστούν όσον αφορά την καταχώρηση των αντιστοίχων δαπανών που επωμίσθηκαν οι συμμετέχοντες κατά την περίοδο της επιλογής έργων.
6. Πολλοί από τους βιομηχανικούς εταίρους και ιδιαίτερα οι ΜΜΕ, διστάζουν να αναλάβουν το ρόλο του επικεφαλής συμβαλλόμενου μέρους λόγω των διαχειριστικών συνεπειών του. Ως εκ τούτου η Επιτροπή θα πρέπει να εξετάσει κατά πόσο είναι απαραίτητο να αυξηθεί η χρηματοδοτική αντιστάθμιση που προβλέπεται για το ρόλο αυτόν.
7. Η Επιτροπή επιβάλλεται να μεριμνήσει για τη βελτίωση της κατάστασης όσον αφορά τις καθυστερήσεις των πληρωμών για τα επιμέρους έργα.
8. Εάν για τεχνικούς ή οικονομικούς λόγους το συνολικό ποσοστό απορρίψεων αυξηθεί περαιτέρω. Θα ήταν σκόπιμο η επιλογή των προτάσεων να πραγματοποιείται σε δύο στάδια. Ενδεχόμενη λύση που ήδη εξετάζεται από τη διαχείριση του BRITE/EURAM θα αποτελούσε ν'αποκτήσουν οι υποψήφιοι το δικαίωμα υποβολής συνοπτικής περιγραφής του ερευνητικού έργου τους στην Επιτροπή ώστε να υπάρξει μία καταρχήν αντίδραση.

2. RELAZIONE

La relazione è suddivisa in quattro parti:

- * Sintesi del programma BRITE/EURAM
- * Risultati del programma BRITE/EURAM
- * Tematiche emergenti e potenziali problemi
- * Raccomandazioni

2.1 Sintesi del programma BRITE/EURAM

Principale obiettivo del programma BRITE/EURAM 1989-1992 è rafforzare la posizione competitiva delle industrie manifatturiere comunitarie. Gli obiettivi comprendono, tra l'altro, la collaborazione transfrontaliera in ricerche industriali di carattere strategico e il trasferimento di tecnologie attraverso le frontiere comunitarie e tra i vari settori, soprattutto quelli che vedono la partecipazione di un elevato numero di PMI.

Il programma comprende cinque settori di ricerca, raggruppati in due parti:

- Settori da 1 a 4, che comprendono attività relative a: Tecnologie dei materiali avanzate, Metodologia di progettazione e garanzia di qualità dei prodotti e dei processi, Applicazione delle tecnologie di produzione, Tecnologie per i processi di produzione.
- Settore 5: Aeronautica (ai sensi dell'articolo 4 della decisione del Consiglio, l'incarico di valutare questa azione pilota biennale è stato affidato ad un gruppo di esperti esterni indipendenti. I risultati della valutazione sono riportati separatamente in una relazione precedente ("Research evaluation - Report n. 46 EUR 13524)).

Lo stanziamento complessivo di bilancio è di 499,5 Mio di Ecu, di cui 440 Mio di Ecu attribuiti a 368 progetti.

Le dimensioni e il tipo di partecipazione al programma sono evidenziati nella tabella seguente:

Stati membri	B	DK	F	D	G	IR	I	L	NL	P	E	UK	
Coordinatori	21	16	71	67	6	8	40	3	27	7	16	86	368
Partecipanti	118	67	379	377	65	49	198	5	102	78	132	364	1934

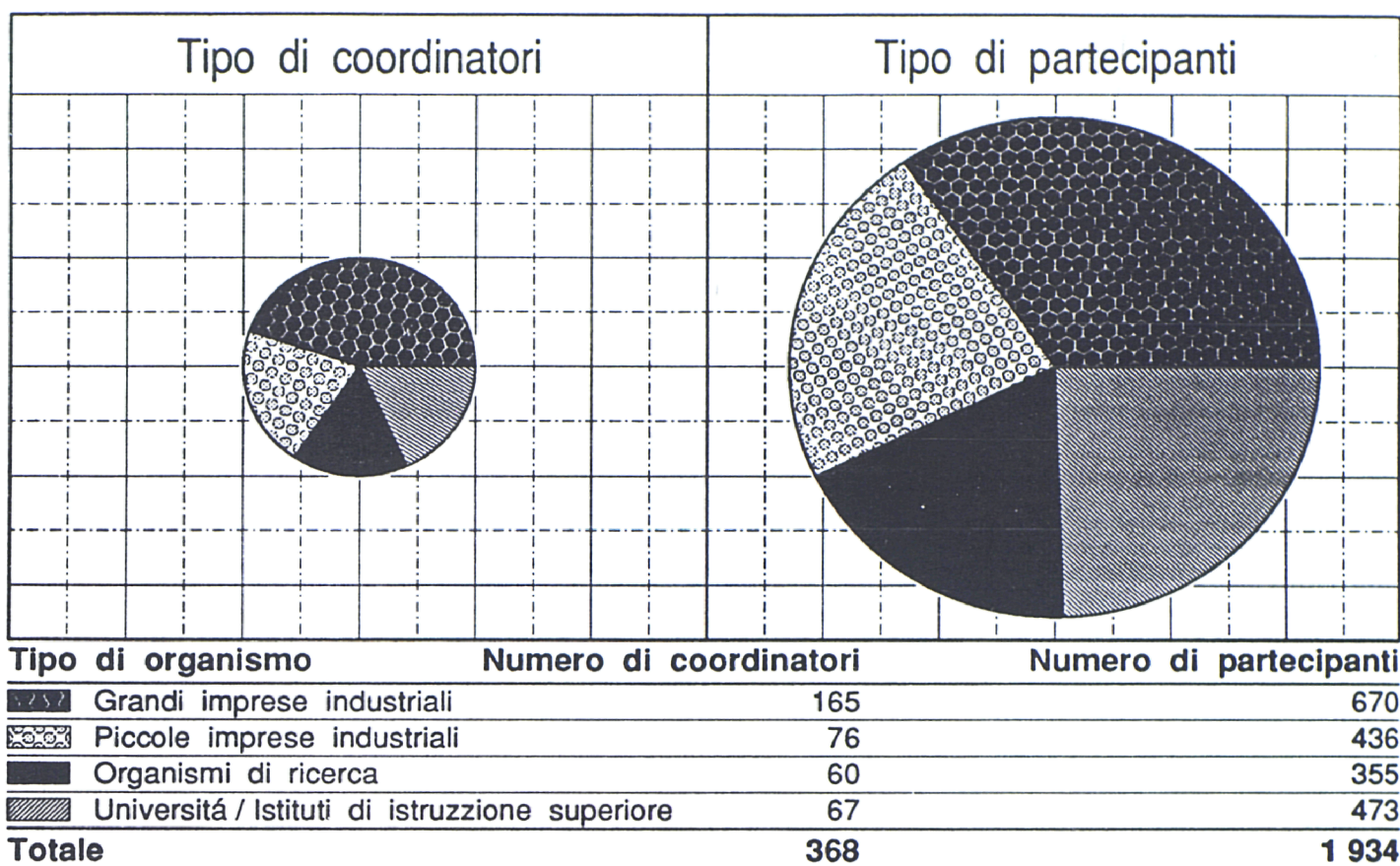


Fig. 1: Distribuzione dei partecipanti

CCE - CEC - KEG / XII / EG#0 ITP# 442 / 08.06.93

Qui di seguito sono riportate altre caratteristiche interessanti del Programma.

Data della decisione del Consiglio	14.03.89
Selezione dei progetti	29.06.89
Stipula del primo contratto	ottobre 1989
Stipula dell'ultimo contratto	ottobre 1990
Importo-tipo del contratto	2,3 Mio di Ecu
Durata-tipo	36 mesi
Numero di conferenze	50/anno
Numero di articoli scientifici	180/anno

L'attuazione del programma è stata caratterizzata dalle seguenti tappe o elementi principali:

- * Individuazione di tematiche prioritarie, previa consultazione dell'industria e tenendo conto degli interessi strategici della CE e delle imprese europee
- * Due inviti a presentare proposte (1989, 1990)
- * Selezione dei progetti (su 1.304 proposte, ne sono state scelte 368, con una partecipazione dell'industria pari al 55% (22% di PMI), delle università pari al 24% e dei centri di ricerca pari al 21%).

Oltre alle azioni a compartecipazione finanziaria, equivalenti a circa 425,0 Mio di Ecu nei settori 1-4 entro la fine del 1990, e a circa 65,0 Mio di ECU nel settore 5, sono state condotte a termine con successo numerose azioni di coordinamento, tra le quali l'"Azione europea concertata sui magneti" (CEAM), la "Società di ricerca europea sui materiali" (EMRS) e azioni orientate alle PMI. Nell'analisi qui sopra riportata non è compresa la partecipazione dei paesi dell'EFTA.

Oltre a un impegno sistematico degli organismi consultivi (CAN, IRDAC), sono stati stipulati numerosi contratti per effettuare studi all'esterno (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick), per aiutare i responsabili della gestione ad esercitare un'efficace direzione e controllo del programma.

2.2 Risultati del programma BRITE/EURAM

Obiettivo del programma BRITE/EURAM è di accrescere la competitività dell'industria europea. Tale obiettivo è stato ampiamente conseguito, in quanto dal programma sono derivati una serie di vantaggi diretti e indiretti.

2.2.1 Risultati diretti

Si può affermare che BRITE/EURAM è stato soddisfacente, in quanto:

- * un'elevata percentuale di progetti portati a termine (più del 70%) ha conseguito "in toto" o in gran parte gli obiettivi tecnologici che si erano proposti;
- * si prevede che i successi in campo tecnologico si tradurranno in un miglioramento della posizione delle imprese partecipanti sul piano della concorrenza in circa il 75% dei casi - il che rappresenta, ancora una volta, una cifra elevata per attività di R&S precompetitiva.

Nella presente relazione, si evidenzia chiaramente che i progetti BRITE/EURAM consentiranno alle imprese interessate di trarre significativi profitti dagli investimenti effettuati.

2.2.2 Risultati indiretti

BRITE/EURAM ha fornito alle imprese partecipanti, soprattutto alle PMI, altri vantaggi che contribuiscono anch'essi ad aumentarne la competitività. Si tratta, tra l'altro, di:

- * creazione di un'importante rete di contatti (più dell'80% delle imprese partecipanti prevedono di proseguire in futuro la cooperazione con i rispettivi partner, anche dopo il completamento del progetto);
- * apprendimento sul piano organizzativo (tali sviluppi si sono prodotti in più di due terzi delle imprese);
- * opportunità di farsi conoscere a livello internazionale che, nel caso di molte PMI, si è rivelata vantaggiosa e non sarebbe stata possibile al di fuori del progetto;
- * crescenti effetti di collegamento a rete tra le università e le industrie in tutta Europa.

Infine, un ulteriore importante elemento che ha contribuito ad aumentare la competitività delle PMI europee è stata l'introduzione di CRAFT.

2.2.3 Coesione

BRITE/EURAM ha contribuito ad aumentare la coesione europea agevolando il reperimento di partner a livello internazionale, con tutti i vantaggi che ne derivano. Nel caso in cui la ricerca fosse stata finanziata da istituti di portata solamente nazionale, assai difficilmente si sarebbero ottenuti vantaggi di tale tipo. Le regioni meno favorite sono ben rappresentate nei progetti, anche se con una maggiore presenza di università che di imprese commerciali.

2.2.4 Gestione del programma

Il gruppo di valutazione ha riscontrato che la gestione del programma è stata professionale e altamente motivata. Ciò appare con evidenza dagli sforzi effettuati per pubblicizzare il programma e per rendere più semplici le procedure per i partecipanti. Il suo successo può essere misurato dal crescente numero di partecipanti e dal fatto che il governo degli Stati Uniti, in un programma analogo, sta seguendo fedelmente le procedure attuate da BRITE/EURAM.

Il programma è attentamente progettato e controllato in tutto il corso del suo svolgimento: per risolvere i problemi che via via possono insorgere, sono stati commissionati studi indipendenti. Il gruppo ha comunque individuato alcuni settori in cui sarebbero possibili miglioramenti.

2.2.5 Attuazione delle raccomandazioni espresse nelle precedenti valutazioni

I due gruppi precedentemente incaricati della valutazione dei programmi BRITE ed EURAM hanno fornito un elenco di raccomandazioni destinate a migliorare l'impatto delle attività di R&S sull'industria manifatturiera comunitaria. Le raccomandazioni riguardavano tre diversi aspetti dei programmi:

- a) l'approccio strategico;
- b) le modalità;
- c) la gestione.

Dal punto di vista strategico, il comitato speciale incaricato della valutazione di BRITE aveva raccomandato che i due programmi (BRITE ed EURAM) venissero fusi in un'unica attività maggiormente orientata al mercato, in vista di agevolare l'applicazione di tecnologie avanzate a tutti i settori delle industrie manifatturiere. Tali indicazioni sono state pienamente attuate con la creazione del programma BRITE/EURAM, in cui si è posto un maggiore accento sugli obiettivi industriali della ricerca e sull'impatto dei risultati sulla concorrenzialità. L'approccio è stato potenziato con l'introduzione di nuove regole e criteri di selezione che tengono maggior conto del potenziale di sfruttamento dei risultati.

Per quanto concerne le modalità, erano state date tre indicazioni principali, e cioè: la pubblicazione di un invito annuale a presentare proposte, una più ampia partecipazione delle PMI e una più chiara definizione di ricerca competitive. Tutte e tre sono state pienamente attuate. Per quanto riguarda la partecipazione delle PMI sono state avviate due iniziative speciali. Si tratta di piani di "conferma della fattibilità" per le PMI che desiderano mettere alla prova le proprie capacità e la validità delle proprie idee di ricerca, e delle azioni CRAFT per le PMI interessate ai risultati della ricerca ma prive di vera e propria capacità di ricerca.

Per quanto concerne gli aspetti di gestione del programma, il gruppo aveva sottolineato l'esigenza di semplificare le procedure e proposto che la Commissione esaminasse l'opportunità di una gestione decentralizzata, servando solo una ridotta équipe di funzionari scientifici. Seguendo tali indicazioni, la Commissione ha snellito le procedure di negoziato e ha avviato un'azione pilota per il monitoraggio tecnico dei progetti, che attualmente è attuato su più di 200 progetti da parte di Auditor tecnici di progetto (PTA- Project Technical Auditors).

La tabella riportata nell'Allegato 4.7 elenca le principali raccomandazioni e le rispettive azioni adottate dalla Commissione, raggruppate a seconda delle diverse fasi del programma.

2.2.6 Conclusioni generali

Il gruppo di valutazione conclude che il programma BRITE/EURAM si è mostrato pienamente soddisfacente. Un'elevata percentuale di progetti ha conseguito importanti progressi tecnici e scientifici e la gestione delle attività da parte della Commissione è stata giudicata, nella maggior parte dei settori, entusiastica ed efficace. L'impressione è stata confermata dall'ampia gamma di contatti e interviste con rappresentanti dei governi e partecipanti ai progetti, realizzate nel corso della valutazione. Molti hanno sostenuto che BRITE/EURAM è uno dei programmi di R&S della Commissione che riscuote maggiore successo e il gruppo condivide tale punto di vista.

2.3 Questioni emergenti e potenziali problemi

Conformemente agli obiettivi dell'Atto unico e alle raccomandazioni dei precedenti rapporti di valutazione, BRITE/EURAM è stato modificato per poter realizzare una ricerca ancor più "prossima al mercato". Tale modifica, assieme al prolungato sforzo promozionale, ha prodotto un sensibile aumento del numero delle proposte presentate.

L'orientamento progressivo ai mercati e il crescente numero di proposte presentate esercitano conseguenze che possono mettere in pericolo il successo futuro del programma. Se la situazione restasse immutata, la gestione del programma potrebbe entrare in crisi, in quanto i funzionari sarebbero costretti a prendere in esame una "valanga" di proposte. Le difficoltà aumenterebbero ancora qualora si ampliasse l'accesso al programma comunitario. Senza appropriati controlli, si potrebbe rafforzare la tendenza ad una ricerca sempre più prossima al mercato". In tal modo, BRITE/EURAM entrerebbe in concorrenza con EUREKA in misura assai maggiore di quella attuale. Uno sviluppo di questo tipo, non affiancato da un sostanzioso aumento degli stanziamenti, avrebbe come risultato un altissimo tasso di rifiuto delle proposte - forse superiore al 95% - con conseguenze indesiderate.

Si potrebbe sostenere che alcuni dei principali squilibri sono dovuti al progressivo spostamento d'accento del programma. E' possibile che il programma tenti di conseguire, simultaneamente, vari obiettivi che pur singolarmente validi, sono in certa misura incompatibili.

Ad esempio:

- * il programma mira a favorire la "ricerca precompetitiva", ma il versante politico lo preme (com'è comprensibile) perché ne dimostri gli immediati vantaggi economici;
- * il programma appoggia attualmente, in misura crescente, i progetti delle PMI, che però non dovrebbe risultare troppo prossimi al mercato (malgrado l'interesse primario che ciò riveste per la maggior parte delle PMI);

- * il programma deve contribuire alla coesione europea, conciliando però tale tendenza con l'obbligo di selezionare i progetti solo sulla base del valore tecnico e scientifico;
- * anche con un crescente appoggio alle PMI, il programma può recare solo un ridotto contributo allo sviluppo delle capacità tecnologiche delle PMI europee. I 436 partecipanti a BRITE/EURAM rappresentano lo 0,025% circa del totale stimato di 1,7 milioni di PMI industriali;
- * a quanto pare, alcuni Stati membri esercitano una crescente pressione per un "juste retour" (il concetto secondo cui gli stanziamenti ricevuti da un determinato Paese membro a supporto di progetti corrispondano alla sua quota a favore del programma). L'accettazione anche tacita di tale concetto da parte della Comunità scatenerrebbe gravi conflitti nel processo di selezione e minerebbe inevitabilmente la qualità dei futuri progetti di ricerca.

Si impone pertanto un'approfondita rassegna di tali tematiche e dei potenziali problemi di BRITE/EURAM, e quale base logica di tale rassegna si avanzano le seguenti raccomandazioni.

2.4 Raccomandazioni

Il gruppo di valutazione ha deciso di ripartire le raccomandazioni in due categorie, quelle di tipo politico e quelle di tipo organizzativo. Le prime riguardano revisioni sostanziali della struttura e degli obiettivi del programma; le altre concernono miglioramenti di specifici aspetti della gestione e dell'attuazione del programma.

2.4.1 Raccomandazioni di tipo politico

1. Dato il crescente successo di BRITE/EURAM, l'aumento delle proposte e delle richieste di fondi, la Commissione potrà forse essere obbligata ad aumentare i fondi solo per mantenere il tasso di accettazione ad un livello praticabile. Anche in questo caso, il gruppo propone una revisione sostanziale delle caratteristiche-chiave del programma che consenta, parallelamente, di soddisfare il principio di sussidiarietà (si veda l'Allegato 4.6). Inoltre, una valutazione razionale dei mezzi destinati ad appoggiare la competitività dell'industria europea indica che in futuro, il programma BRITE/EURAM dovrebbe riorientarsi verso una fase più precompetitiva, malgrado i pareri fortemente contrari di molti partecipanti dell'industria, specialmente le PMI. Tra le possibili alternative di cambiamento, il gruppo raccomanda di:

- * ridurre il numero di settori di ricerca;
- * porre maggiormente l'accento sulle tecnologie di tipo generale; una maggiore quota di stanziamenti sarà devoluta non alla ricerca puramente applicata, ma a quella strategica (per le definizioni, si veda l'Allegato 4.6);
- * applicare più rigorosamente i criteri della precompetitività;
- * istituire livelli flessibili di supporto finanziario.

Si deve sottolineare che BRITE/EURAM è un programma destinato ad appoggiare gli sforzi di ricerca dell'industria, e che è pertanto necessario incoraggiare, all'interno dell'équipe di ricerca, la simultanea presenza dei fabbricanti e degli utilizzatori.

2. Perché, come sopra indicato, la futura ricerca finanziata dalla Comunità europea nei settori affrontati da BRITE/EURAM possa essere di natura più strategica e concentrata su tecnologie generali, tenendo conto, allo stesso tempo, delle difficoltà della partecipazione delle PMI all'attuale programma BRITE/EURAM, il gruppo propone che le esigenze delle PMI siano più opportunamente affrontate con un'iniziativa distinta. A tale scopo, la Commissione dovrà indagare le modalità per poter ampliare la portata dell'attuale programma CRAFT. La Commissione dovrà inoltre istituire una struttura amministrativa che promuova la ricerca in cooperazione tra le PMI a livello nazionale, e allo stesso tempo sia in grado di coadiuvare le imprese e gli organismi nazionali, se del caso, a promuovere la partecipazione delle PMI in un apposito programma comunitario.
 3. Si dovrà riesaminare l'attuale limite alle dimensioni dei progetti (5 Mio di Ecu), ai fini di definire regole per l'accettazione di progetti di maggiori dimensioni.
 4. Il gruppo ha valutato vari aspetti concernenti la relazione tra BRITE/EURAM e altri programmi, e raccomanda quanto segue.
 - * Effettuare un monitoraggio continuo del coordinamento tra BRITE/EURAM e le attività parallele, come ad es. ESPRIT. Il gruppo è del parere che, spostando nell'ambito di BRITE/EURAM le attività nel settore della CIM (produzione assistita da elaboratore), si compierebbe un utile passo in vista di eliminare eventuali problemi di coordinamento.
 - * Segnalare e rendere riconoscibili i progetti BRITE/EURAM coronati da successo e suscettibili di nuovi sviluppi, perché ciò potrebbe risultare utile nel caso in cui i partecipanti richiedano ulteriori finanziamenti, soprattutto nel quadro di EUREKA;
 - * Definire in modo più accurato la relazione tra BRITE/EURAM e il programma VALUE, tenendo conto delle tematiche della sussidiarietà. La Commissione dovrebbe esaminare modalità per potenziare il ruolo di VALUE come punto di riferimento centrale per gli Stati membri. Ai singoli governi dovrebbe essere lasciata invece la responsabilità di diffondere le informazioni sui risultati dei progetti e di promuovere e finanziare le attività a valle, come ad esempio lo sviluppo di prototipi.
- La Commissione dovrebbe opporre tenace resistenza a qualsiasi pressione derivante dall'applicazione, da parte degli Stati membri, dei principi del "juste retour" per quanto concerne gli sviluppi della loro partecipazione a BRITE/EURAM o agli eventuali programmi successivi.
6. E' necessario riesaminare i protocolli concernenti la pubblicazione dei risultati dei progetti. Pur appoggiando il parere secondo cui non bisogna limitare la divulgazione della ricerca praticata con fondi pubblici, il gruppo raccomanda che, data la riservatezza sul piano industriale di alcuni risultati, si possa concedere ai partecipanti dell'industria, d'accordo con i partner, di differirne la pubblicazione per un periodo rigorosamente definito. Tale restrizione dovrebbe riguardare periodi non superiori a 18 mesi. Inoltre, il gruppo accetta con favore ogni iniziativa della Commissione che agevoli la brevettazione dei risultati dei progetti. La Commissione dovrebbe riservarsi il diritto di pubblicare sintesi delle ricerche in corso.

2.4.2 Raccomandazioni di tipo organizzativo

1. L'attuale approccio (periodici inviti a presentare proposte) limita in modo artificioso l'agevole sviluppo delle idee contenute nei progetti e rappresenta un inutile fardello per il personale addetto ai progetti BRITE/EURAM. Il gruppo di valutazione raccomanda che tale procedura, nei limiti del bilancio esistente, sia sostituita con un "bando di gara con procedura aperta".

La Commissione dovrebbe esaminare l'opportunità di ulteriori misure per trasferire aspetti della gestione del programma a singoli o ad organismi indipendenti, su contratto, pur riservandosi il potere di decisione finale. A tale riguardo, si potrebbe eventualmente decentrare la responsabilità della preparazione e negoziazione dei contratti di progetto, prevedendo gli opportuni stanziamenti.

3. La promozione del programma con mezzi pubblicitari e altre misure dovrebbe essere più efficacemente correlata ai diversi gradi di sensibilizzazione al programma nei vari paesi. Inoltre, le spese complessive dovrebbero essere ragionevolmente correlate agli stanziamenti disponibili del programma. Nella situazione attuale, una maggiore pubblicità potrebbe avere come effetto una più elevata percentuale di rifiuto delle proposte.
4. Un'elevata priorità dovrebbe essere attribuita al ruolo dei funzionari incaricati della gestione e, là dove è attivata, alla formazione e al supporto del progetto, per conservare un equilibrato ed elevato livello qualitativo e un'omogeneità di trattamento dei progetti in termini di neutralità e di indipendenza. Il gruppo raccomanda che gli orientamenti circa tale ruolo siano resi disponibili ai partecipanti ai progetti.
5. Si dovrebbero riesaminare le regole della Commissione relative al pagamento dei fondi, per consentire ai partecipanti di imputare i costi pertinenti sostenuti a partire dalla selezione del progetto.
6. Molti partner industriali, soprattutto le PMI, si mostrano reticenti ad assumere il ruolo di contraente principale, a causa dell'impegno richiesto. La Commissione deve pertanto valutare se sia necessario aumentare il compenso finanziario attribuito a tale ruolo.
7. La Commissione dovrebbe migliorare la situazione per quanto riguarda i ritardi dei pagamenti ai progetti.
8. Se, per motivi tecnici o finanziari, il tasso complessivo di rifiuto delle proposte diventasse più elevato di quello attuale, sarebbe opportuno adottare un approccio di selezione a due fasi. Una possibile soluzione, che è già all'esame dei responsabili della gestione di BRITE/EURAM, consiste nel consentire ai potenziali proponenti di sottoporre alla Commissione uno schema del progetto di ricerca, per poter conoscere le prime reazioni.

2. OVERZICHT

Dit overzicht bestaat uit vier hoofdstukken :

- . Samenvatting van het BRITE/EURAM-programma.
- . Resultaten van het BRITE/EURAM-programma.
- . Nieuwe knelpunten en mogelijke problemen.
- . Aanbevelingen.

2.1. Samenvatting van het BRITE/EURAM-programma

De belangrijkste doelstelling van het BRITE/EURAM-programma 1989-1992 is de concurrentiepositie van de producerende industrie in de Gemeenschap te versterken. Tot deze doelstellingen behoren de grensoverschrijdende samenwerking op het gebied van strategisch industrieel onderzoek en de verspreiding van technologie over de Gemeenschap, alsmede de uitwisseling van technologie tussen sectoren, vooral die technologie waarbij een groot aantal KMO's is betrokken.

Het programma omvat vijf gebieden die in twee hoofdgroepen zijn onderverdeeld :

- Gebieden 1 tot en met 4 : er wordt onderzoek verricht naar de technologie van geavanceerde materialen, ontwerpmethodologie en produkt- en procesbewaking, toepassing van fabricagetechnieken en technieken voor fabricageprocessen.
- Gebied 5 : Luchtvaart. (Een afzonderlijk team van onafhankelijke externe deskundigen is belast met de evaluatie van dit tweejarig proefonderzoek overeenkomstig artikel 4 van de beschikking van de Raad. De resultaten hiervan zijn apart vermeld in een reeds verschenen verslag : onderzoekenvaluatie - Verslag nr. 46 EUR 13524).

De totale middelen bedragen 499,5 miljoen ecu waarvan 440 miljoen ecu voor 368 projecten is vastgelegd.

De mate van en het soort deelname in dit programma wordt in de onderstaande tabel aangegeven :

Lid- Staten	B	DK	F	D	G	IR	I	L	NL	P	E	UK	
Coördinatoren	21	16	71	67	6	8	40	3	27	7	16	86	368
Deelnemers	118	67	379	377	65	49	198	5	102	78	132	364	1934

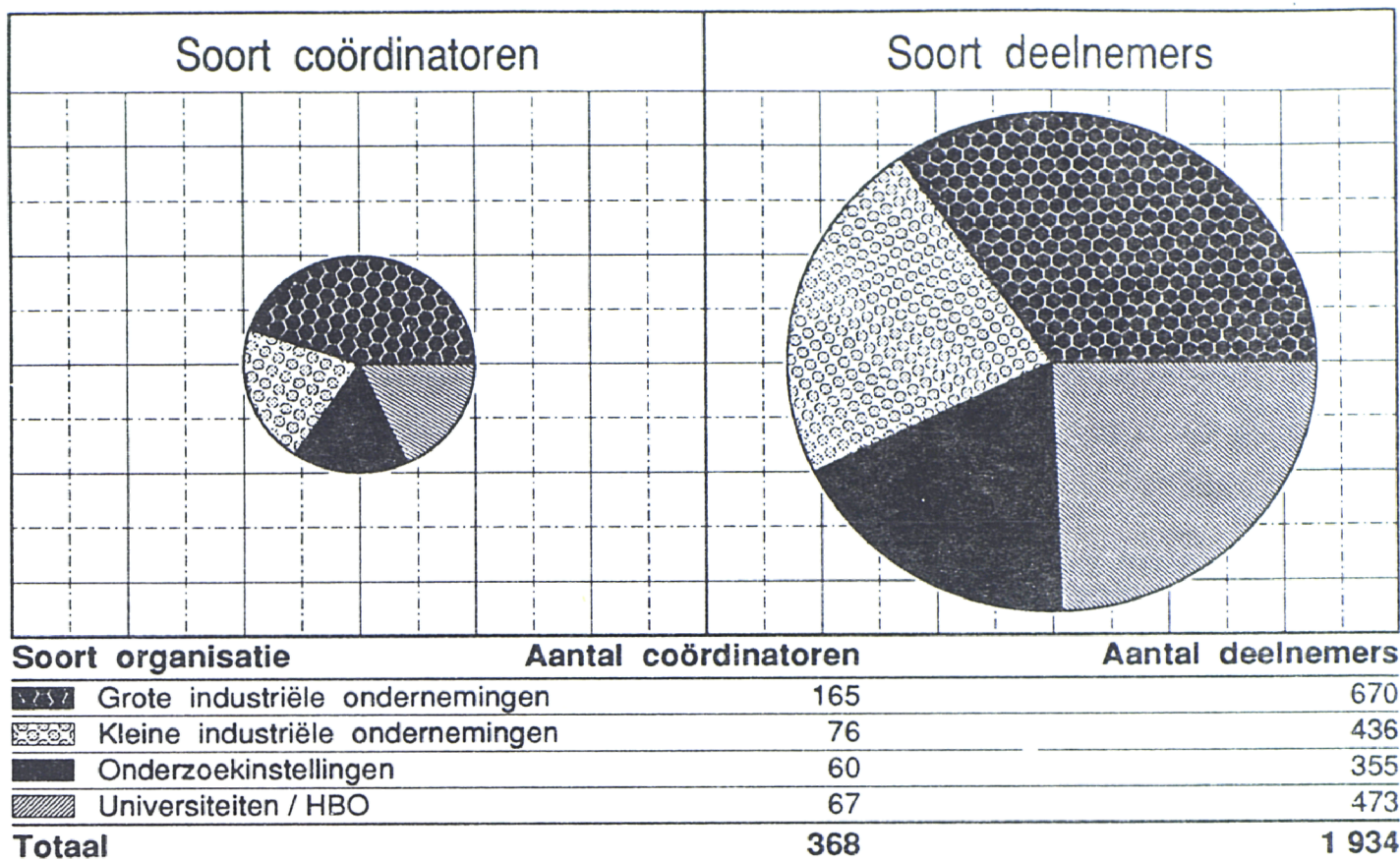


Fig. 1: Verdeling van de deelnemers

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Een aantal interessante kenmerken van het programma kunnen als volgt worden weergegeven :

Datum van de beschikking van de Raad : 14.3.1989
 Selectie van de projecten : 29.6.1989
 Opstelling van het eerste contract : oktober 1989
 Opstelling van het laatste contract : oktober 1989
 Gemiddelde omvang van een contract : 2,3 miljoen ecu
 Gemiddelde duur : 36 maanden
 Aantal conferenties : 50/Jaar
 Aantal wetenschappelijke artikelen : 180/Jaar

De uitvoering van het programma omvat de volgende belangrijke fasen of punten :

- Identificatie van prioritaire thema's in overleg met de industrie, waarbij rekening werd gehouden met de strategische belangen van zowel de EEG als de Europese bedrijven.
- Twee uitnodigingen tot de indiening van voorstellen (1989-1990).
- Selectie van projecten (uit 1304 voorstellen werden 368 projecten gekozen met 55 % deelname uit de industrie, waaronder 22 % KMO's, 24 % universiteiten en 21 % onderzoekcentra).

Naast onderzoek voor gezamenlijke rekening waarmee circa 425,0 miljoen ecu voor de gebieden 1 tot en met 4 tot eind 1990 gemoeid ging en circa 65,0 miljoen ecu voor gebied 5 zijn verscheidene coördinerende activiteiten met succes uitgevoerd, te weten Gezamenlijke Europese Actie aangaande magneten (CEAM), de Europese Vereniging voor onderzoek naar materialen (EMRS) en KMO-gerichte activiteiten. In de hierboven beschreven analyse is echter deelname uit de EVA-landen buiten beschouwing gelaten.

Behalve dat er systematisch adviesorganen bij het onderzoek werden betrokken (CAN, IRDAC) zijn er verscheidene studies extern verricht (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick) ter ondersteuning van het beheer en de effectieve begeleiding van en de controle op het programma.

2.2. Resultaten van het BRITE/EURAM-programma

Het doel van het BRITE/EURAM-programma was de concurrentiepositie van de Europese industrie te vergroten. Deze doelstelling is grotendeels verwezenlijkt door een combinatie van directe en indirecte voordelen die uit het programma voortvloeien.

2.2.1. Directe resultaten

BRITE/EURAM kan als geslaagd worden beschouwd daar :

- . een hoog percentage van voltooide projecten (meer dan 70 %) de technologische doelstellingen "volledig" of "grotendeels" hebben bereikt.
- . van deze technologische successen wordt verwacht dat hierdoor de concurrentiepositie van de deelnemende bedrijven in ongeveer 75 % van de gevallen wordt verbeterd hetgeen een hoog percentage is voor preconcurrend O & O.

Uit dit rapport blijkt dat investeringen in het kader van een BRITE/EURAM-project ook voldoende opleveren voor het betrokken bedrijf.

2.2.1. Indirecte resultaten

Deelname aan BRITE/EURAM betekent voor de bedrijven, vooral KMO's ook andere voordelen die hun concurrerend vermogen versterken. Hiertoe behoren :

- . Een waardevol netwerk van contacten. (Meer dan 80 % van alle deelnemende bedrijven is voornemens nadat het project is voltooid de samenwerking met hun projectpartners in de toekomst voort te zetten.)
- . Vergroting van de organisatorische kennis. (Dit is het geval bij meer dan twee derde van de bedrijven.)
- . Internationale bekendheid hetgeen voor vele KMO's gunstig is; zonder het project zou een dergelijke bekendheid nooit tot stand zijn gekomen.
- . Steeds meer netwerken tussen universiteiten en industrieën in heel Europa.

Tenslotte is CRAFT ook een belangrijk element voor de versterking van de concurrentiepositie van de KMO's in Europa.

2.2.3. Samenhang

BRITE/EURAM heeft een bijdrage geleverd tot de samenhang van Europa aangezien de internationale samenwerking door het programma is vergemakkelijkt met alle voordelen vandien. Het is zeer onwaarschijnlijk dat dergelijke resultaten bereikt zouden zijn als dit onderzoek door uitsluitend nationale instellingen zou zijn gefinancierd. De minder begunstigde gebieden zijn goed in de projecten vertegenwoordigd hoewel deze gebieden sterker vertegenwoordigd worden door universiteiten dan door commerciële ondernemingen.

2.2.4. Programmabeheer

Het team is van mening dat het programma professioneel en zeer verantwoord wordt beheerd. Dit blijkt uit de inspanningen die zijn gedaan om bekendheid aan het programma te geven en de vereenvoudiging van de procedures voor de deelnemers. Het succes kan worden afgemeten aan het steeds groter wordende aantal deelnemers en aan het feit dat de Amerikaanse regering bij een soortgelijk programma de bij BRITE/EURAM gehanteerde procedures nauwgezet volgt.

Het programma wordt goed begeleid en gevolgd waarbij opdracht wordt gegeven tot de uitvoering van onafhankelijke studies om te helpen bij de oplossing van problemen die zich voordoen. Niettemin heeft het panel een aantal gebieden ontdekt waar eventueel verbeteringen kunnen worden aangebracht.

2.2.5. Uitvoering van de aanbevelingen van voorgaande evaluaties

De twee voorgaande teams die belast waren met de evaluatie van het BRITE/EURAM-programma hebben een lijst aanbevelingen gedaan om het effect van de O & O-activiteiten op de producerende industrie in de Gemeenschap te verbeteren. De aanbevelingen hadden betrekking op drie verschillende aspecten van de programma's.

- a) de strategische benadering
- b) de modaliteiten
- c) het beheer.

Wat betreft de strategie heeft het BRITE-panel aanbevolen van twee programma's (BRITE en EURAM) er één te maken in de vorm van een beter marktgericht programma met het doel de bevordering van de toepassing van geavanceerde technologieën in alle sectoren van de produktie-industrieën. Deze suggesties zijn volledig opgevolgd door de opzet van het BRITE/EURAM-programma waarin meer nadruk wordt gelegd op industriële doeleinden van het onderzoek en het effect van de resultaten op het concurrerend vermogen. Een en ander is versterkt door de invoering van nieuwe regels en criteria voor de selectie waarbij meer rekening wordt gehouden met de exploitatiemogelijkheden.

Wat betreft de modaliteiten waren er drie belangrijke suggesties gedaan : ieder jaar een uitnodiging tot het indienen van voorstellen publiceren, een grotere deelname van KMO's en een duidelijker omschrijving van preconcurrend onderzoek. Hieraan is volledig gehoor gegeven. Wat betreft de deelname van KMO's zijn er twee specifieke initiatieven ontplooid : uitvoerbaarheidpremies voor KMO's die de mogelijkheden en levensvatbaarheid van hun onderzoeksideeën willen aantonen en de CRAFT-activiteiten voor KMO's die belangstelling hebben voor onderzoeksresultaten zonder over echte onderzoekscapaciteiten te beschikken (drie tot dusver).

Wat betreft de beheersaspecten van het programma hebben de teams gewezen op de noodzaak de procedures te vereenvoudigen en de Commissie voorgesteld de mogelijkheden van gedecentraliseerd beheer te onderzoeken als een manier om met slechts een klein team wetenschappelijke ambtenaren te werken. Naar aanleiding hiervan heeft de Commissie vereenvoudigde regels voor de besprekingen

ingevoerd en experimenteert zij met de technische begeleiding van projecten. Momenteel worden meer dan 200 projecten door externe technische projectauditors (Project Technical Auditors - PTA) gevolgd.

De belangrijkste aanbevelingen staan in tabelvorm vermeld in bijlage 4.7 waarbij de respectieve door de Commissie geantimeerde activiteiten worden genoemd. Deze zijn gegroepeerd al naargelang de verschillende fasen van het programma.

2.2.6. Algemene conclusies

Het team kan zonder meer concluderen dat het BRITE/EURAM-programma een groot succes is. Een hoog percentage projecten heeft geleid tot technische en wetenschappelijke doorbraken en het beheer van de Commissie is op de meeste gebieden efficiënt en wordt met enthousiasme uitgevoerd. Deze indruk wordt bevestigd door de vele contacten en gesprekken met regeringsvertegenwoordigers en deelnemers aan de projecten die ten tijde van de evaluatie tot stand kwamen. Velen van hen zijn van mening dat BRITE/EURAM een van de meest geslaagde O & O-programma's van de Commissie is en het team sluit zich bij deze mening aan.

2.3. Nieuwe knelpunten en mogelijke problemen

Naar aanleiding van de doelstellingen van de Europese Akte en de aanbevelingen van eerdere evaluatierapporten is BRITE/EURAM aangepast en is nu meer een programma voor "marktgericht" onderzoek. Deze aanpassing en de voortdurende bekendheid die aan het programma wordt gegeven heeft een sterke stijging van het aantal aanvragen opgeleverd.

Deze twee aspecten, de verschuiving naar de markt en het toegenomen aantal aanvragen hebben gevolgen die een blijvend succes van het programma zou kunnen ondermijnen. Als de situatie ongewijzigd blijft is de kans op een crisis bij het programmabeheer niet ondenkbaar aangezien ambtenaren een "lawine" voorstellen moeten behandelen. Dit zou nog problematischer kunnen worden wanneer de toegang tot het communautaire programma wordt vergroot en als hier niets aan gedaan wordt zou het onderzoek te marktgericht worden, waardoor BRITE/EURAM sterker zou gaan concurreren met EUREKA dan nu het geval is. Een dergelijke ontwikkeling zou zonder een aanzienlijke verhoging van de middelen tot een zeer hoog afwijzingspercentage kunnen leiden - misschien zelfs meer dan 95 % - hetgeen ongewenste gevolgen zou kunnen hebben.

Sommige van de onevenwichtigheden zijn wellicht het gevolg van de geleidelijke verschuiving van het hoofdthema van het mandaat van het programma. Er wordt tot op zekere hoogte gestreefd naar de gelijktijdige verwezenlijking van een aantal doelstellingen die afzonderlijk zinvol maar in bepaald opzicht onverenigbaar zijn. Bij voorbeeld :

- . het programma is gericht op de bevordering van "preconcurrerend onderzoek" maar wordt geconfronteerd met overigens verklaarbare politieke druk snel economische resultaten te laten zien.
- . het programma steunt steeds meer KMO-projecten maar mag niet te veel marktgericht zijn hoewel dit voor de meeste KMO's van het grootste belang is.
- . het programma zou moeten bijdragen tot de Europese eenheid maar moet ook projecten electeren op grond van louter en alleen technische en wetenschappelijke merites.

- . hoewel de steun voor KMO's steeds toeneemt kan het programma slechts een zeer kleine bijdrage leveren aan de ontwikkeling van het technologisch kunnen van Europese KMO's. De 436 deelnemers aan BRITE/EURAM maken slechts 0,025 % uit van het geraamde totaal aantal KMO's van 1,7 miljoen.
- . een aantal Lid-Staten dringt er steeds meer op aan het principe van 'juste retour' toe te passen (dit principe houdt in dat de ontvangen steun voor een project in een Lid-Staat overeenkomt met de nationale bijdrage aan het programma). Zelfs de stilzwijgende aanvaarding van een dergelijk principe door de Gemeenschap zou tot ernstige tegenstrijdige belangen bij de selectieprocedure kunnen leiden en onvermijdelijk de kwaliteit van toekomstige onderzoekprojecten kunnen ondermijnen.

Er valt dus veel te zeggen voor een grondige evaluatie van deze mogelijke problemen voor BRITE/EURAM. Voor een dergelijke evaluatie worden de volgende logische uitgangspunten aanbevolen.

2.4. Aanbevelingen

Het team heeft de aanbevelingen onderverdeeld in twee categorieën : die aangaande het beleid en die van organisatorische aard. Beleidsaanbevelingen hebben betrekking op een ingrijpende herziening van de programmastructuur en het doel van het programma; organisatorische aanbevelingen hebben te maken met de geleidelijke verbetering van specifieke aspecten van het programmabeheer en de uitvoering van het programma.

2.4.1. Beleidsaanbevelingen

1. Gezien het steeds toenemende succes van BRITE/EURAM, het toenemende aantal voorstellen en de vraag naar financiële middelen zou de Commissie zich wel eens gedwongen kunnen zien steeds meer middelen toe te kennen eenvoudigweg om het aanvaardingspercentage op een acceptabel niveau te houden. Zelfs in dat geval stelt het team voor de hoofdkenmerken van het programma grondig te herzien waardoor ook mogelijkheden worden geschapen om aan het subsidiariteitsbeginsel te voldoen (zie bijlage 4.6). Bovendien blijkt uit een rationele evaluatie van de wijzen waarop de concurrentiepositie van de Europese industrie kan worden versterkt dat het accent van een toekomstig BRITE/EURAM-programma weer op de preconcurrende fase moet komen te liggen. Een en ander is in strijd met de mening van de vele deelnemers uit de industrie, met name KMO's. Uit een scala van mogelijke wijzigingen beveelt het team het volgende aan :
 - . het aantal onderzoeksgebieden moet worden gereduceerd.
 - . er moet meer aandacht worden besteed aan specifieke technologieën; een groter aandeel van de financiële middelen moet worden uitgetrokken voor strategisch onderzoek in plaats van zuiver toegepast onderzoek; (zie bijlage 4.6 voor een omschrijving).
 - . de preconcurrende criteria moeten strenger worden toegepast.
 - . er moeten flexibele financieringsniveaus voor de steun worden vastgesteld.

Benadrukt moet worden dat BRITE/EURAM een programma is ter ondersteuning van onderzoek door de industrie en gericht is op de bevordering van deelname aan onderzoeksteams door zowel producenten als gebruikers van technologie.

2. Indien, zoals in het bovenstaande wordt voorgesteld, EEG-gesteund onderzoek in het kader van BRITE/EURAM in de toekomst strategischer van aard moet worden en zich meer zou moeten toespitsen op specifieke technologieën, waarbij rekening wordt gehouden met de moeilijkheid om KMO's bij het bestaande BRITE/EURAM-programma te betrekken, is het volgens het team zaak een afzonderlijk initiatief te ontplooien om aan de behoeften van KMO's tegemoet te komen. In verband hiermee zou de Commissie de mogelijkheid kunnen onderzoeken het toepassingsgebied van het bestaande CRAFT-programma te vergroten. Daarnaast zou de Commissie een administratieve structuur kunnen opzetten die zowel het onderzoek van KMO's in samenwerkingsverband op nationaal niveau zou kunnen bevorderen als ondernemingen en zonedig nationale organisaties van dienst zou kunnen zijn bij de bevordering van de deelname van KMO's aan een speciaal programma van de Gemeenschap.
3. Het huidige maximum van 5 miljoen ecu voor de grootte van een project moet worden heroverwogen om eventueel regels vast te stellen voor de aanvaarding van grotere projecten.
4. Het team heeft een aantal aspecten bekeken aangaande de relatie tussen BRITE/EURAM en andere programma's en beveelt het volgende aan :
 - . er moet voortdurend worden toegezien op de coördinatie tussen BRITE/EURAM en parallelle activiteiten zoals ESPRIT. De integratie van CIM in BRITE/EURAM zou volgens het team een belangrijke stap in de richting van de oplossing van coördinatieproblemen kunnen zijn.
 - . geslaagde BRITE/EURAM-projecten met mogelijkheden voor verdere ontwikkeling moeten apart worden gehouden aangezien deelnemers hierdoor gemakkelijker aanvullende middelen toegewezen zouden kunnen krijgen, met name in geval van een aanvraag voor EUREKA.
 - . het verband tussen BRITE/EURAM en het VALUE-programma moet beter worden gedefinieerd waarbij er rekening moet worden gehouden met het subsidiariteitsbeginsel. De Commissie moet onderzoeken op welke wijze de rol van VALUE als centraal referentiepunt voor de Lid-Staten kan worden versterkt. De verantwoordelijkheid voor de verspreiding van informatie over projectresultaten en de bevordering en de financiering van daaruit voortvloeiende activiteiten zoals de ontwikkeling van een prototype moet worden overgelaten aan de afzonderlijke regeringen.
5. De Commissie moet zich fel verzetten tegen druk die ontstaat doordat Lid-Staten het 'juste retour'-principe toepassen bij de voortzetting van hun deelname aan BRITE/EURAM of de opvolgers daarvan.
6. De protocollen aangaande de publikatie van projectresultaten moeten opnieuw worden gezien. Hoewel het team de mening onderschrijft dat gegevens over met algemene middelen gefinancierd onderzoek openbaar moeten zijn, beveelt het team aan dat in verband met de industriële vertrouwelijkheid van bepaalde resultaten deelnemers uit de industrie het recht moeten hebben na overleg met de andere projectdeelnemers uitstel van publikatie voor een beperkte periode moeten kunnen aanvragen. Een dergelijke beperking mag niet meer dan 18 maanden bedragen. Daarnaast zou het team initiatieven van de Commissie gericht op de ondersteuning van octrooiëring van projectresultaten toejuichen. De Commissie moet het recht houden samenvattingen van lopend onderzoek te publiceren.

2.4.2. Aanbevelingen van organisatorische aard

1. De bestaande aanpak waarbij op regelmatige tijdstippen uitnodigingen tot het indienen van voorstellen worden gedaan is een kunstmatige beperking van de soepele ontwikkeling van projectideeën en een onnodige belasting van het personeel dat zich bezighoudt met BRITE/EURAM-projecten. Het team adviseert een en ander voor zover dat binnen de bestaande begroting mogelijk is te vervangen door een 'open call'.
2. De Commissie moet overwegen maatregelen te nemen om bepaalde aspecten van het programmabeheer over te dragen aan onafhankelijke organisaties of personen in het kader van een contract, waarbij zij zelf de eindbeslissing blijft nemen. In verband hiermee zou de verantwoordelijkheid voor en de opstelling van en de besprekingen over projectcontracten kunnen worden gedecentraliseerd. Hiertoe moeten de nodige financiën beschikbaar worden gesteld.
3. De wijze waarop bekendheid wordt gegeven aan het programma via advertenties en andere maatregelen moet beter worden afgestemd op de mate waarin de programma's bekend zijn in de verschillende landen. Bovendien moeten de totale kosten een redelijk deel uitmaken van de beschikbare fondsen voor het programma. In de huidige omstandigheden betekent meer publiciteit een hoger afwijzingspercentage.
4. Er moet in de eerste plaats aandacht worden besteed aan richtsnoeren voor het met het beheer belaste personeel en voor zover aanwezig aan opleiding in projectbeheer om enerzijds een evenwichtig hoog kwaliteitsniveau te handhaven en anderzijds te zorgen voor een gemeenschappelijke norm voor neutraliteit en onafhankelijkheid bij projectsturing. Het team vindt het raadzaam dergelijke richtsnoeren beschikbaar te stellen aan de deelnemers aan projecten.
5. De regels van de Commissie aangaande betalingen voor projecten moeten opnieuw worden gezien om deelnemers in de gelegenheid te stellen bepaalde kosten op te voeren die sinds de selectie van het project zijn gemaakt.
6. Vele deelnemers uit de industrie, vooral KMO's, willen liever geen eerste contractant zijn vanwege het beheer dat daarmee gepaard gaat. De Commissie moet derhalve nagaan of het nodig is de vergoeding voor een dergelijke rol te verhogen.
7. De Commissie moet de situatie rond vertraagde betalingen voor projecten verbeteren.
8. Indien het totale afwijzingspercentage om technische of financiële redenen hoger is dan momenteel het geval is, is een tweefasenbenadering bij de selectie van voorstellen wenselijk. Een andere mogelijke oplossing die reeds door het met BRITE/EURAM belaste personeel onder de loep wordt genomen zou hierin kunnen bestaan dat potentiële indieners een schets van een onderzoekproject mogen indienen zodat een eerste reactie kan worden gegeven.

2. RESUMO

O resumo está estruturado do seguinte modo:

- . Resumo do programa BRITE/EURAM
- . Resultados do programa BRITE/EURAM
- . Questões que se colocam e problemas potenciais
- . Recomendações

2.1 Resumo do programa BRITE/EURAM

O principal objectivo do programa BRITE/EURAM 1989-92 é melhorar a competitividade da indústria transformadora da Comunidade. Os objectivos incluem a colaboração transfronteiras no domínio da investigação industrial estratégica e a transferência de tecnologia na Comunidade e entre os sectores, nomeadamente entre os que têm um elevado número de PMEs.

O programa abrange 5 áreas, agrupadas em duas partes:

- Áreas 1 a 4: tecnologias dos materiais avançados, metodologias de concepção e garantia de produtos e processos, aplicação de tecnologias da indústria transformadora e tecnologias de processos da indústria transformadora.
- Área 5: Aeronáutica. (A avaliação desta acção piloto bi-anual foi confiada a um outro painel de peritos externos independentes, em conformidade com o artigo 4º da Decisão do Conselho. Os resultados da avaliação foram já publicados num relatório separado: Avaliação da Investigação - Relatório nº 46 EUR 13524).

O montante total orçamentado é de 499.5 mecus, dos quais 440 mecus foram afectados a 368 projectos.

O nível e tipo de participação neste programa é descrito no quadro seguinte:

Estado-membro	B	DK	F	D	G	IR	I	L	NL	P	E	UK	
Coordenadores	21	16	71	67	6	8	40	3	27	7	16	86	368
Participantes	118	67	379	377	65	49	198	5	102	78	132	364	1934



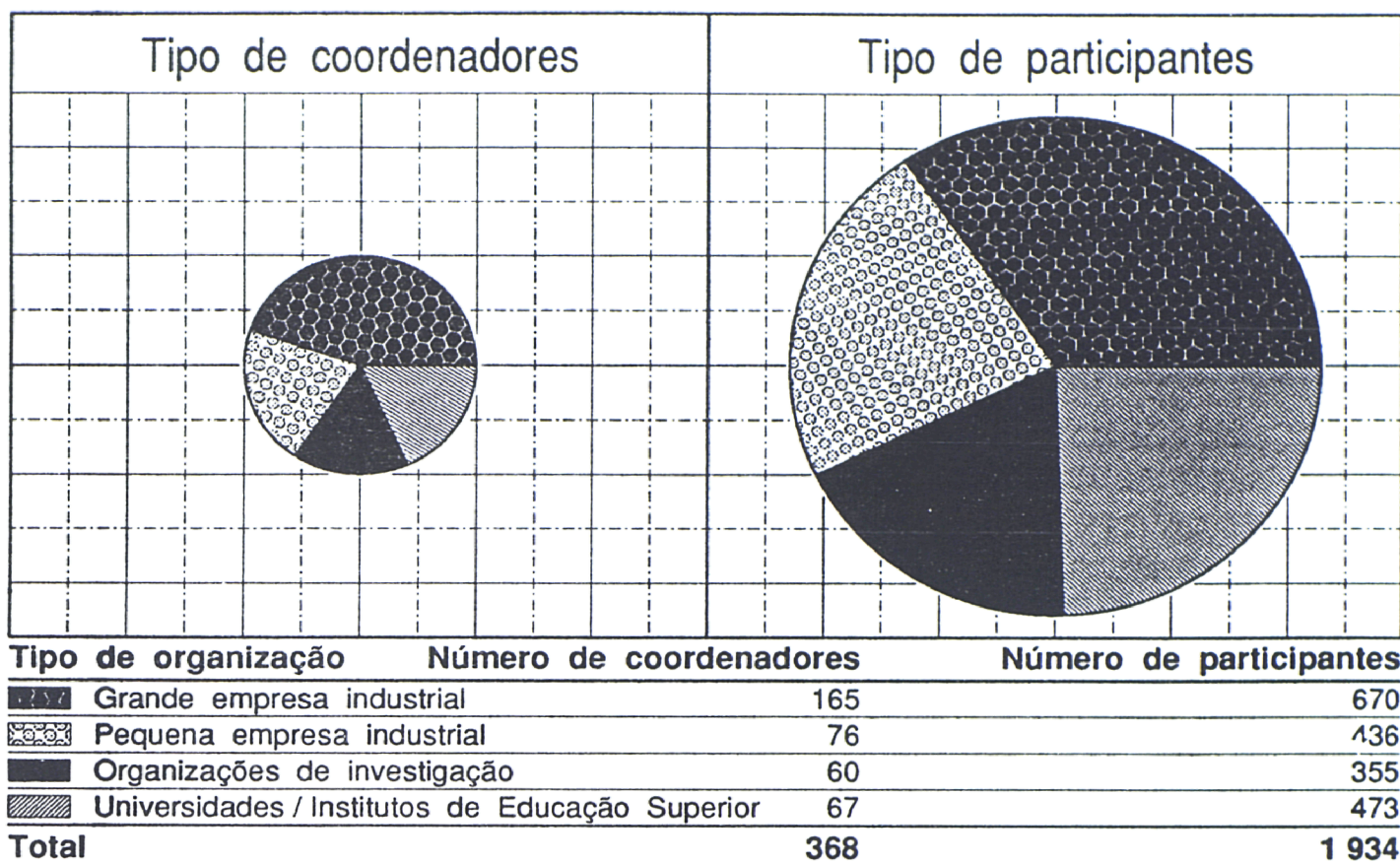


Fig. 1: Distribuição dos participantes

CCE - CEC - KEG / XII / EGRO PTPw.442 / 08.06.93

Algumas outras informações interessantes do programa são:

Data da Decisão do Conselho: 14.03.89
 Selecção dos projectos: 29.06.89
 Celebração do primeiro contrato: Outubro de 1989
 Celebração do último contrato: Outubro de 1990
 Valor típico dos contratos: 2.3 milhões de ecus
 Duração típica: 36 meses
 Número de conferências: 50/ano
 Nr. de documentos científicos: 180/ano

A implementação do programa caracterizou-se pelas seguintes etapas ou elementos principais:

- . Identificação dos temas prioritários após consulta da indústria, tomando em consideração os interesses estratégicos da CE e das empresas europeias
- . Dois convites à apresentação de propostas (1989-1990)
- . Selecção dos projectos (de 1304 propostas, foram seleccionadas 368, com 55% de participantes industriais-incluindo 22% PMEs- 24% de universidades e 21% de centros de investigação).

Para além das Acções a Custos Repartidos, representando cerca de 425.0 mecus para as áreas 1 a 4, até ao final de 1990, e cerca de 65.0 mecus para a área 5, foram desenvolvidas com sucesso várias acções de coordenação, i.e., Acção Concertada Europeia sobre os Ímanes (CEAM), Sociedade Europeia de Investigação sobre Materiais (EMRS) e acções destinadas às PME's. Contudo, esta análise não inclui a participação dos países da EFTA.

Para além do envolvimento sistemático de organismos consultivos (CAN, IRDAC), foram subcontratados vários estudos (Bossard, Yellow Window, Van Dijk, BETA, Fitzpatrick) para auxiliar a gestão a orientar e controlar eficazmente o programa.

2.2 Resultados do programa BRITE/EURAM

O objectivo do programa BRITE/EURAM consistia em aumentar a competitividade da indústria europeia. O objectivo foi amplamente atingido através de uma combinação de benefícios directos e indirectos resultantes do programa.

2.2.1 Resultados directos

O sucesso de BRITE/EURAM pode ser confirmado através de:

- . uma elevada percentagem dos projectos concluídos (mais de 70%) atingiram totalmente ou no essencial os respectivos objectivos tecnológicos
- . prevê-se que o sucesso tecnológico se traduza numa melhoria da posição concorrencial das empresas participantes em cerca de 75% dos casos, o que é também um valor elevado para a I&D pré-competitiva.

A este nível, existem claros indícios de que os projectos BRITE/EURAM originarão para as empresas envolvidas significativos ganhos relativamente aos investimentos realizados.

2.2.2 Resultados indirectos

BRITE/EURAM proporcionou ainda às empresas participantes, nomeadamente às PME's, outros benefícios que também melhoram a sua competitividade. Entre eles:

- . Criação de uma valiosa rede de contactos (mais de 80% de todas as empresas participantes esperam continuar a cooperar futuramente com os seus parceiros no projecto, depois da conclusão deste)
- . Aprendizagem organizacional (o que ocorreu em mais de dois terços das empresas)
- . Contacto com um ambiente internacional que, no caso de muitas PME's, se revelou benéfico e que não teria sido possível sem o projecto
- . Estabelecimento cada vez mais intenso de redes entre universidades e indústrias em toda a Europa.

Finalmente, a introdução de CRAFT constituiu outro importante elemento de apoio ao aumento da competitividade das PME's europeias.

2.2.3 Coesão

Ao facilitar a parceria internacional, com todos os benefícios associados, o programa BRITE/EURAM contribuiu para aumentar a coesão europeia. É muito improvável que esses benefícios tivessem resultado de uma investigação financiada exclusivamente por institutos nacionais. As regiões menos favorecidas estão bem representadas nos projectos, embora tendencialmente mais por universidades que por empresas comerciais.

2.2.4 Gestão do programa

O painel concluiu que a gestão do programa é simultaneamente profissional e muito motivada. Isso pode observar-se nos esforços feitos para a divulgação do programa e para simplificar os procedimentos de participação. O seu sucesso pode ser avaliado através do aumento contínuo de participantes e pelo facto do governo dos Estados Unidos estar a aplicar basicamente os procedimentos implementados pelo BRITE/EURAM, num programa similar.

O programa tem sido devidamente acompanhado e controlado, e têm sido encomendados estudos independentes para apoiar a resolução de problemas. No entanto, o painel identificou algumas áreas em que é possível fazer alguns melhoramentos.

2.2.5 Implementação de Recomendações de Avaliações anteriores

Os dois painéis que foram anteriormente encarregados da avaliação dos programas BRITE e EURAM elaboraram uma lista de recomendações para melhorar o impacto das actividades de I&D na indústria transformadora comunitária. As recomendações abrangiam três aspectos diferentes dos programas.

- a) a abordagem estratégica
- b) as modalidades
- c) a gestão.

Do ponto de vista da estratégia, o painel BRITE recomendou a fusão dos dois programas (BRITE e EURAM) numa acção mais orientada para o mercado, com o objectivo de facilitar a aplicação das tecnologias avançadas em todos os sectores da indústria transformadora. Essas sugestões foram totalmente implementadas através da criação do programa BRITE/EURAM, em que foi dada maior ênfase aos objectivos industriais da investigação e ao impacto dos resultados na competitividade. A introdução de novas regras e critérios de selecção, que atribuem maior importância ao potencial de exploração, reforçou esta perspectiva.

No que diz respeito às modalidades, foram feitas três sugestões principais: a realização de um convite anual à apresentação de propostas, uma maior participação de PME e a definição mais clara de investigação pré-competitiva. Estas sugestões foram integralmente concretizadas. No relativo à participação das PME, foram lançadas duas iniciativas especiais, o esquema de Subsídios de Exequibilidade para as PME que pretendem provar a sua capacidade e a viabilidade das suas ideias de investigação, e acções CRAFT para PME (três, até ao momento) interessadas em resultados de investigação, mas sem capacidade real para a realizar.

No relativo aos aspectos associados à gestão do programa, o painel expressou a necessidade de simplificar os procedimentos e sugeriu que a Comissão explorasse as possibilidades de gestão descentralizada como processo de manter apenas uma pequena equipa de Funcionários com funções científicas. Em consequência, a Comissão introduziu regras simplificadas de negociação e lançou uma acção piloto para a monitorização técnica dos projectos. Actualmente, mais de 200 projectos são acompanhados por Auditores Técnicos de Projecto (ATP) externos.

No quadro incluído como anexo 4.7, foram referenciadas as recomendações mais importantes conjuntamente com as acções adoptadas pela Comissão. Os itens foram agrupados em função das diferentes fases do programa.

2.2.6 Conclusões gerais

O painel concluiu que o programa BRITE/EURAM tem tido um sucesso substancial. Uma elevada percentagem dos projectos tem atingido os respectivos objectivos técnicos e científicos e a forma como a Comissão tem gerido a actividade é considerada, na maior parte das áreas, eficiente e entusiástica. Esta opinião foi confirmada pela extensa gama de contactos e entrevistas com representantes governamentais e participantes nos projectos, realizados no decurso da avaliação. Muitas das entidades contactadas expressaram a opinião de que BRITE/EURAM é um dos programas de I&D da Comissão mais bem sucedidos e o painel partilha essa opinião.

2.3 Questões que se colocam e problemas potenciais

A perspectiva de BRITE/EURAM mudou para uma investigação "mais próxima do mercado", de acordo com os objectivos do Acto Único Europeu e as recomendações expressas em anteriores relatórios de avaliação. Esta mudança, conjuntamente com o esforço promocional continuado, gerou um forte aumento do número de candidaturas.

Estas duas questões, a mudança para uma orientação mais próxima do mercado e o aumento do número de candidaturas, têm consequências que podem minar a continuação do sucesso do programa. Se a situação se mantiver, é de prever uma crise a nível da gestão do programa, na medida em que os funcionários se verão forçados a lidar com uma "avalanche" de projectos. A situação deteriorar-se-á quando o acesso ao programa comunitário for alargado, o que poderá reforçar o movimento para uma investigação mais próxima do mercado. Dessa forma, BRITE/EURAM entrará mais directamente em concorrência com EUREKA do que actualmente. Aprofundamentos destas tendências, sem um substancial aumento de fundos, resultarão numa taxa de rejeição muito elevada – provavelmente superior a 95% – o que poderá ter consequências indesejáveis.

Pode argumentar-se que alguns dos desequilíbrios básicos se devem à gradual alteração dos objectivos do programa. O programa pode estar a tentar atingir simultaneamente vários objectivos que em certa medida são incompatíveis, embora sejam individualmente correctos.

Por exemplo:

- . o programa destina-se a incentivar a "investigação pré-competitiva", mas está sujeito a pressões políticas compreensíveis no sentido de evidenciar benefícios económicos imediatos
- . o programa está a apoiar cada vez mais projectos de PME's, mas não deve estar demasiado próximo do mercado, o que, no entanto, é de interesse primordial para a maior parte das PME's
- . pretende-se que o programa contribua para a coesão europeia, mas no entanto isso deve ser feito no quadro de uma selecção dos projectos apenas com base no mérito técnico e científico
- . mesmo apoiando cada vez mais as PME's, o programa apenas pode contribuir infimamente para o desenvolvimento das capacidades tecnológicas das PME's europeias. Os 436 participantes em BRITE/EURAM representam cerca de 0.025% de uma população total estimada de 1.7 milhões de PME's
- . parece haver cada vez maiores pressões de alguns Estados-membros no sentido de uma "justa compensação" (conceito que aponta para o equilíbrio entre a entrada de fundos para apoio a projectos num Estado-membro e a contribuição nacional para o programa). A aceitação de um conceito desse género, mesmo tácita, pela Comunidade pode gerar graves conflitos no processo de selecção e minará inevitavelmente a qualidade dos futuros projectos de investigação.

Consequentemente, há fortes motivos para proceder a uma análise profunda destas questões e dos problemas potencialmente resultantes para BRITE/EURAM. As recomendações seguintes são apresentadas como uma base lógica dessa análise.

2.4 Recomendações

O painel decidiu distinguir entre recomendações políticas e organizacionais. As recomendações políticas dizem respeito a revisões significativas da estrutura e objectivos do programa; as recomendações organizacionais lidam com aperfeiçoamentos incrementais de aspectos específicos da gestão e implementação do programa.

2.4.1 Recomendações políticas

1. Tendo em conta o sucesso crescente de BRITE/EURAM e o aumento do número de propostas e da procura de apoios, a Comissão pode ver-se forçada a considerar um aumento da afectação de fundos simplesmente para manter a taxa de aceitação a um nível viável. Mesmo nesse caso, o painel propõe uma revisão significativa das características essenciais do programa, que permitirá satisfazer simultaneamente o princípio da subsidiariedade (ver Anexo 4.6). Para além disso, uma análise racional dos meios de apoio à competitividade da indústria europeia sugere que a tónica do futuro BRITE/EURAM deve voltar a ser colocada na fase pré-competitiva, apesar de uma forte corrente de opinião contrária de muitos participantes industriais, nomeadamente de PME's. Entre várias opções possíveis de mudança, o painel recomenda que:

- . o número de domínios de investigação seja reduzido
- . seja dada maior ênfase às tecnologias genéricas; que a investigação estratégica, por oposição à investigação puramente aplicada (ver Anexo 4.6 para definições), beneficie de uma parte maior do financiamento
- . sejam estritamente aplicados critérios de pré-competitividade
- . sejam estabelecidos níveis flexíveis de apoio ao financiamento

Deve sublinhar-se que BRITE/EURAM é um programa destinado a apoiar o esforço de investigação na indústria e que a presença simultânea nas equipas de investigação dos produtores e utilizadores das tecnologias a desenvolver deve ser encorajada.

2. Se, tal como é acima sugerido, a futura investigação financiada pela CE nos domínios cobertos pelo BRITE/EURAM for de natureza mais estratégica e primordialmente orientada para as tecnologias genéricas, e tomando também em consideração as dificuldades de participação das PME's no programa BRITE/EURAM existente, o painel considera que as necessidades das PME's seriam melhor servidas por uma acção separada. Para esse efeito, a Comissão deveria explorar as possibilidades de extensão do âmbito do programa CRAFT existente. Para além disso, a Comissão deveria criar uma estrutura administrativa que promovesse a cooperação em investigação entre PME's a nível nacional e tivesse capacidade para apoiar quando necessário empresas e organizações nacionais, a nível da promoção do envolvimento de PME's num programa comunitário específico.
3. O limite actual de 5 mecus em termos da dimensão dos projectos deve ser reexaminado tendo em vista a definição de regras para aceitação de projectos maiores.
4. O painel analisou vários aspectos da relação entre BRITE/EURAM e outros programas e recomenda:
 - . monitorização contínua da coordenação entre BRITE/EURAM e actividades paralelas como ESPRIT. A mudança de CIM para BRITE/EURAM seria, na opinião do painel, um passo importante para suprimir problemas potenciais de coordenação
 - . os projectos BRITE/EURAM com sucesso e com potencial de desenvolvimento futuro devem ser assinalados, já que isso pode auxiliar os participantes que pretendam obter mais financiamentos, nomeadamente no caso de apresentação de candidaturas a EUREKA
 - . a relação entre BRITE/EURAM e o programa VALUE deve ser melhor definida, tomando devidamente em consideração as questões de subsidiariedade. A Comissão deveria analisar os processos de reforçar o papel de VALUE como ponto central de referência para os Estados-membros. A responsabilidade pela divulgação de informação sobre os resultados dos projectos, e a promoção e financiamento das actividades a jusante, como o desenvolvimento de protótipos, deveria ser atribuída aos governos nacionais.

5. A Comissão deve opor-se enérgicamente a quaisquer pressões resultantes da tentativa de aplicação pelos Estados-membros de princípios de "justa compensação" no desenvolvimento das participações nacionais em BRITE/EURAM ou nos programas que lhe dêem continuação.
6. Os protocolos relativos à publicação dos resultados dos projectos devem ser revistos. Embora partilhe a opinião de que a divulgação dos resultados da investigação financiada com fundos públicos não deva ser restringida, o painel recomenda que, devido à confidencialidade industrial de alguns resultados, seja concedido aos participantes industriais o direito de solicitar, de comum acordo com os parceiros participantes no projecto, que a publicação apenas seja feita após um período estritamente limitado. Esse período de restrição da publicação não deve ser superior a 18 meses. Para além disso, o painel considera adequadas todas as iniciativas da Comissão destinadas a apoiar o registo de patentes relativas aos resultados dos projectos. A Comissão deve conservar o direito de publicar resumos da investigação em curso.

2.4.2 Recomendações organizacionais

1. O actual procedimento de publicação periódica de convites à apresentação de propostas dá origem a um entrave artificial ao desenvolvimento harmonioso de ideias de projectos e a uma carga de trabalho desnecessária para o pessoal encarregado dos projectos BRITE/EURAM. O painel recomenda que esse procedimento seja, dentro dos limites dos orçamentos existentes, substituído por um "Concurso Permanente".
2. A Comissão deve considerar medidas adicionais de subcontratação de aspectos da gestão do programa a organizações ou pessoas independentes, continuando a manter a responsabilidade pela decisão final. Neste domínio, uma possibilidade seria a descentralização da responsabilidade pela preparação e negociação de contratos de projectos, com disponibilização de financiamento apropriado.
3. A promoção do programa através de publicidade e outras medidas deve ser associada aos diferentes graus de conhecimento do programa nos vários Estados-membros. Para além disso, as despesas globais devem manter uma relação razoável com os fundos disponíveis para o programa. Nas actuais circunstâncias, mais publicidade resultará em taxas de rejeição mais elevadas.
4. Deve ser dada prioridade à elaboração de "Orientações Metodológicas" para os funcionários responsáveis pela gestão e, quando for o caso, a acções de formação em gestão de projectos, para manter um nível de qualidade elevado e equilibrado e um padrão comum de neutralidade e independência a nível das intervenções em projectos. O painel recomenda que seja dado aos participantes nos projectos acesso a essas linhas de orientação.

5. As regras da Comissão relativas ao pagamento dos custos do projecto devem ser reexaminadas para permitir aos participantes, desde a selecção do projecto a afectação dos custos relevantes suportados.
6. Muitos parceiros industriais, nomeadamente PMEs, têm relutância em assumir o papel de Contratante Principal devido ao encargo de gestão envolvido. Consequentemente, a Comissão deveria estudar o assunto para verificar se não é necessário aumentar a compensação financeira associada a essa função.
7. A Comissão deve melhorar a situação relativa aos atrasos nos pagamentos referentes aos projectos.
8. Se, por motivos técnicos ou financeiros, a taxa global de rejeição aumentar relativamente ao seu valor actual, seria conveniente introduzir uma abordagem em duas etapas da selecção das propostas. Uma solução possível, que já está a ser estudada pela gestão de BRITE/EURAM, seria a possibilidade dos proponentes potenciais submeterem à Comissão uma descrição geral do projecto de investigação de modo a terem uma primeira reacção por parte desta.

3. FINDINGS

Extent to which Programme Objectives were met

- There has been substantial success in achieving the technical and scientific milestones.
- There has been intense competition for funding.
- The Programme has made a 'significant' contribution to the competitiveness of participating companies.
- The Programme has contributed to social and economic cohesion.
- Problems have been experienced with integrating SMEs in the Programme.
- There has been insufficient funding of pre-normative research activity.
- The Programme has generated a satisfactory level of patenting.

3.1 Extent to which Programme Objectives were met

3.1.1 Scientific and Technological Achievements

The Panel chose to examine what proportion of projects satisfy their original objective thereby meeting technological and scientific milestones, and what proportion of projects produce patentable results.

To be able sensibly to address the main issues, the Panel felt it appropriate to review projects completed or nearing completion. The review, therefore, includes a few projects started in earlier programmes and not strictly within the 1989-1992 frame specified in the terms of reference. This, the Panel believe, in no way invalidates the conclusions.

A significant majority of the projects met their original objectives and technical and scientific milestones:

- both the BETA and the earlier BRITE/EURAM VALUE study found that more than 70% of the projects have mainly or fully achieved their scientific and technological objectives.
- the VALUE study, on a smaller but carefully selected sample, confirmed this ratio.

The Panel conclude that while technical and scientific success has been encouragingly high, the Community objectives of supporting projects only of a 'pre-competitive' nature, are not being fully observed. Project selection experts have tended to accept projects with demonstrable benefits and low risks. This situation the Panel attribute to four key factors:

- the high quality of project proposals
- the intense competition for funding
- the role of 'market potential' as an important selection criterion
- changes to the Programme as a result of the previous evaluation

Two further issues are worth noting:

- the Panel could not find any projects in the normative/pre-normative category. This may also be a consequence of the weight given to demonstrable economic benefit in the criteria for project selection.
- while patent counts in themselves are not comprehensive indicators of the economic value of research findings, it was interesting to note that of 75 projects finished in 1990, around 35% actually led to patent applications. Of the 132 projects finished in 1991, approximately 37% are actively engaged in patent procedures.

Because of the lack of normative/pre-normative research, the Panel support the initiative of IRDAC (June 1992) for installing a European pre-normative research organisation. This would also be in accord with the recommendation from CREST (September 1992).¹

¹ Evaluation of the Second Framework Programme of RTD - Report from CREST to Council - September 1992 - CREST/1212/1/92 REV1-EN

3.1.2 Impact on Competitiveness

It is accepted that the economic well-being of Europe depends on 'European companies' which are able to constantly upgrade their international competitiveness. Thus, any improvement in the competitiveness of European companies is generally beneficial, even if those companies operate mainly on an intra-European basis. The added productivity that lies at the root of any increase of competitiveness, increases in the long term the overall benefits to society.

3.1.2.1 Direct Effects

The BRITE/EURAM-VALUE study concludes that the relationship between investment in BRITE/EURAM and the expected increase in turnover, which participating companies will obtain from the application of the results of supported projects is substantial. Assuming that additional turnover could mean extra jobs (actual or potential), BRITE/EURAM has facilitated the creation of new jobs in Europe or, at least, has contributed toward avoiding their loss. In many industries, improvements in competitiveness correlate to improvements in productivity which do not necessarily result in increased employment. Nevertheless, in the long term, competitiveness is a pre-requisite for the development of industry and the related consequences to society's economic and social welfare such as new and often better jobs.

It could be argued that the additional turnover in certain companies, not derived by extra-Community support or not linked to the increase in internal demand, could result in a similar loss in other Community businesses. In reality if a company gains a realistic competitive advantage, this advantage will allow the company to either meet the additional demand itself or at the very least it will allow the formation of a business which would be much stronger and therefore in a better position to fight off competition from outside the Community.

The BETA study explored the problem from another point of view, correlating Community support with estimates of added value. Focusing on the projects reviewed (especially those with the greatest presumed economic success) the Panel concluded that the taxes derived from the direct and indirect effects of the application of the BRITE/EURAM project results, could be greater than the Community resources which have been invested.

On the basis of available evidence and the above mentioned studies, the Panel conclude that the Community investment made through BRITE/EURAM can be considered profitable. Satisfactory returns at a business level, new jobs generated or confirmed and incoming tax receipts higher than the support being provided, are the three main indicators which support this conclusion.

3.1.2.2 Indirect Effects

The competitiveness of a firm is determined by many factors, other than technology, especially in the case of SMEs. Many of these indirect factors are enhanced or facilitated through participation in a BRITE/EURAM project and they include:

a) Impact on the Quality of Research

It is argued that collaborative research in a BRITE/EURAM project improves the quality of industrial research, particularly for SMEs and the financial implications of such participation should also be noted. First, the 50% funding of costs provided by the Commission doubles the firm's R&D budget for a specific project. Second, BRITE/EURAM helps the participant to embark on relatively larger projects, not only because of the extra funding but because the research is collaborative. It will thus enjoy the benefits of a project many times larger than it could afford on its own. For many companies, participation in a BRITE/EURAM project is the only way such research could be carried out. In support of this view, many of the firms contacted in the course of the study agreed that they would not have started these kinds of projects without the BRITE/EURAM Programme.

This finding is especially relevant if we note that some of these projects are important to the companies not only because of the direct financial benefits, but also because the technology developed can, in some instances, be extended to other projects.

b) International Dimension

Participation in a BRITE/EURAM project can also enhance the companies' international stance, through increased visibility, credibility and contacts. The company's name is listed in official EC literature as being active in important research. Furthermore, being a research partner of a major international company says much about a small company's quality, as does also having gone successfully through a rigorous project selection procedure.

The actual work in the project, because of its international nature, has enabled many technologists to attend meetings outside their own country, to work with colleagues in different languages, and to observe first-hand, different ways of doing business. This has led many of these companies to "open up" to European realities and to lose their fear of seeking business or help beyond their national borders.

c) Improving the Organisation

Participation in a BRITE/EURAM project can have important effects inside the organisation. A very striking one in SMEs which are strongly technology-based, is that the BRITE/EURAM project can teach them how to internalise R&D. Often many smaller companies act as research consultancies working on a contract basis for clients but without a research agenda for advancing their own knowledge base. Taking part in BRITE/EURAM has led some of them to undertake 'real' R&D, and also to work in a more structured, explicit, professional way. It has forced these SMEs to realise that investing in their technological skills is essential for their future, and it has helped them overcome their traditional problem of lack of critical mass.

Related to the above is the admission that "we have learned to collaborate". Many of these companies were accustomed to subcontracting some of their development work (normally, tests and measurements) to other institutions (generally universities), but they never thought of those institutions as partners. Taking part in just one BRITE/EURAM project provided them with useful experience to be applied in future collaborations.

3.1.3 Added Value by Commission involvement

Added value is revealed in the increase of the Community's economic and industrial competitiveness and in the development of cohesion between the various member states. We may wish to ask, however, whether these results could have been obtained, perhaps more effectively, through national programmes or maybe through other internationally based collaborative research programmes (e.g., EUREKA).

A superficial analysis of the projects which have been financed reveals that, at least in the case of the larger nations, many could have been funded at a national level. But in other cases, even in the most favourable conditions, this would not have been possible.

The potential overlap with EUREKA is another important issue as there should be clear differences between the programmes:

- BRITE/EURAM aims to finance projects which are pre-competitive, whereas EUREKA operates, by definition, in the competitive phase.
- process innovation should be more evident in BRITE/EURAM than in EUREKA.
- the BRITE/EURAM Programme aims to encourage the development of generic technologies.
- the upper limit imposed on BRITE/EURAM projects is 5 MECU, while EUREKA has no limit.

In conclusion, BRITE/EURAM has supported some projects which would never have been able to 'get off the ground' on a national scale and which were not eligible for other international R&D funding schemes. Therefore, the implementation of BRITE/EURAM has at least partially observed the conditions of subsidiarity.

On the basis of the above arguments, the Panel feel confident that BRITE/EURAM has contributed to the improvement of European industrial competitiveness. Furthermore, BRITE/EURAM has at least partially filled a space which could not have been filled by national initiatives or by initiatives of the single participating companies.

3.1.4 Social Factors

3.1.4.1 Cultural Cohesion

It is evident that the rules of the Programme, which require that projects must be proposed by corporations or institutions from different member states, favour reciprocal understanding, reduce the effect of cultural differences and facilitate the transfer of know-how and the mutual sharing of experience. The various interviews conducted directly by the evaluation Panel and other sources of information received in the course of the evaluation, confirm the importance of these aspects.

A delicate issue, however, is the inclusion of institutes and companies from the weaker regions and countries of the Community. Participation, of industrial companies from the Less Favoured Regions (LFR) is relatively poor and the examination of the projects indicates that in many cases the participants comprise research institutes or local branches of foreign industrial companies.

The Panel believe that the academic communities of LFR have an important role which may not be fully recognised.

When a company from one of the stronger industrial countries joins with a research institute from an LFR, this can eventually provide a stimulus for the company to consider the LFR as an area of expansion for its own activities. In addition, the participation of universities and research institutes in the Programme can lead to the formation of SMEs. A key element in this process is the training and experience which EC programmes provide.

3.1.4.2 Economic Cohesion

It is accepted that an important long term benefit of BRITE/EURAM is derived from the nature and extent of the lasting linkages created between the various participants. The merits of lasting linkages within the Community must be considered in relation to the acknowledged importance of manufacturing industry in Europe. This is well summarised in a recent evaluation by CREST of the Second Framework Programme².

The opportunities for creating linkages of any sort must be seen in the context of the history of BRITE/EURAM. During the first phase of the separate BRITE and EURAM programmes, 306 projects were approved and funded. The BRITE/EURAM Programme (Second Framework Programme) has supported a further 368 new projects. A total of nearly 700 projects have thus been launched involving about 3000 organisations from industry and research centres, 55% industrial participants (including 22% SMEs), 24% Universities and 21% Research Centres. Organisations from all 12 member states are participating, and there are an increasing number of partners from EFTA countries.

An analysis of Second Framework Programme projects contained in the CREST report showed that the total links established between participants in the BRITE/EURAM Programme was as follows:

	BIG	SME	REC	EDU	OTH	TOTAL
BIG	1928	817	406	525	45	3721
SME	817	982	554	545	21	2919
REC	406	554	596	563	21	2140
EDU	525	545	563	864	21	2518
OTH	45	21	21	21	4	112

ORGANISATION TYPE

BIG Industry >500 employees
 SME Industry <500 employees
 REC Public or Private Research Centre
 EDU Higher Educational Establishment
 OTH Others

² Evaluation of the Second Framework Programme of RTD - Report from CREST to Council - September 1992 - CREST/1212/1/92 REV1-EN

The main linkages are between the large companies (1928) with about half that number between SMEs (982). As might be expected there are a large number of linkages between Universities and between SMEs/BIG companies. It is interesting to note that the number of links between SMEs and both universities and research centres exceed the corresponding figures for large companies.

A large proportion of the 'BIG' companies, the universities and the research centres will have established links which pre-date their BRITE/EURAM project. Conversely, a much higher proportion of the links between SMEs and large companies, universities and research establishments are likely to be new.

Published comment on the question of linkages has tended to be quantitative rather than qualitative but nevertheless identifies where long term effects might have been achieved, as indicated by the report of the EURAM evaluation. The evaluation of BRITE revealed similar findings, showing that, of those projects investigated, where participants did not have a working relationship with any of their partners before the start of the project, more than 75% intended to continue co-operating in R&D with at least one of their BRITE partners. These figures are confirmed by a recent assessment of BRITE/EURAM linkages provided by VALUE.

To summarise, and taking into account the issue of subsidiarity:

- It is the case that many of the direct effects of BRITE/EURAM projects could probably have been obtained by purely nationally funded research.
- However, the cohesion and networking effects of pan-European collaboration justify the organisation of the Programme at the Community level. This is clearly so if it is remembered that, in purely economic terms, the return on the Community's investment is more than satisfactory.

3.1.5 SMEs

The Panel endorse the importance attached by the Commission to enhancing the technological skills of European SMEs. However, in spite of considerable efforts to develop the participation of SMEs in BRITE/EURAM, this has proved only partially successful.

According to the figures provided in section 2.1, SMEs represented only 22% of the 1934 participants and 76 (21%) of the 368 project co-ordinators. The Panel believe that several factors may account for this:

- First, SMEs lack the experience and appropriate personnel necessary to manage research projects.
- Second, the minimum size of projects in BRITE/EURAM is too large for many SMEs.
- Third, many SMEs by their nature have limited resources, and in general the inclination is towards 'near market' development activities rather than generic research.

It should be noted that the total number of European industrial SMEs is, on the basis of the Commission's definition, in the region of 1.7 million.

Effectiveness of Implementation

- The Programme has provided a reasonable coverage of technology areas.
- The overhead costs of the Programme are acceptable and in line with comparable programmes.
- There have been effective measures for promoting Programme awareness.
- The periodic Call for Proposals (CFP) causes difficulties for potential participants and Programme management.
- The application procedures are complicated and time consuming to complete.
- Many project participants have experienced occasional delays when receiving EC funds.
- The financial compensation allocated to Prime Contractors is insufficient with respect to the responsibilities involved.

3.2 Effectiveness of Implementation

3.2.1 Programme Content

In 1989, the strategy defined by IRDAC was to rely on existing strong areas of European industry, because these areas provided the opportunity for growth and expansion, but not to neglect the competitive advantage of established industries like the chemical industry.

To satisfy basic human needs, four domains were considered to be of strategic importance, i.e. TRANSPORTATION, PACKAGING, CONSTRUCTION and ENVIRONMENTAL ASPECTS. The present BRITE/EURAM Programme covers to some extent most of the technology areas in each of these topics. However, the technologies of PACKAGING and some associated areas such as materials and reprocessing appear somewhat neglected. The Panel assume that several of these areas will be considered inside the part of the BRITE/EURAM Programme recently devoted to environmental problems. If this is not the case, the Panel feel that future BRITE/EURAM calls for proposals should stress this domain and its special problems.

3.2.2 Management Costs

It is difficult to make a valid comparison of costs with other programmes on a like for like basis because the content of management costs may vary in important ways. The Panel conclude that the declared management costs of the Programme as a percentage of global costs, namely between 7.2% and 7.6%, are reasonable. As a guide, these compare with the management costs of the French organisation ADER whose equivalent costs are calculated at 7.9% of the total programme budget. Similarly, the costs of CSIRO in Australia are in the same region, estimated at 8%. For the costs of management alone, CNRS in France calculate the overhead to be 3%. As regards the management of the CIFRE contracts, ANRT estimate 4%. The French administration accept for the majority of their research contracts, costs which climb up to 8%.

As a final point, the Panel believe that the overhead costs, as a percentage of total programme budget, should only be a guide. With management costs approaching 50 MECU for BRITE/EURAM, we must accept that reasonable economies might still be found. For example, the Panel received several comments on what was perceived by Programme applicants as excessive expenditure on high quality promotional documentation, even though these remarks were not restricted to BRITE/EURAM alone.

Interviews with participants and BRITE/EURAM officers have removed, to some extent, doubts regarding linguistic barriers and the extra costs tied to the administration of international projects. It was confirmed that the working language of all the participants is English. As regards the 'extra' costs of project administration, Community regulations allow the Prime Contractor (who has the main duty of helping participants reach agreement and works in direct contact with the BRITE/EURAM structure) coordination costs of 3% of the value of the project. Assuming that approximately half of these costs would in any case be borne, even if the participants should all come from the same member state, the cost of internationalisation is therefore somewhere between 1% and 2%. This cost, the Panel believe, is modest when compared to the substantial cohesion benefits which have already been discussed at length.

In addition, the Panel feel that the financial compensation provided for the Prime Contractor is in fact inadequate with respect to the responsibilities attached to the position.

3.2.3 Promotion of Programme Awareness and User Friendliness

The Panel wish to acknowledge the substantial efforts of Programme management in promoting awareness of the Programme. In particular, the Panel note the series of increasingly well attended BRITE/EURAM conferences organised in Member and EFTA countries, and the wide range of publicity material and briefing documentation. The Panel is confident that any organisation interested in the Programme will be able to find the necessary information either directly from the Commission or through the various intermediary organisations which exist in most countries. Included in the latter are government Ministries, professional bodies, regional development organisations, and public research organisations.

3.2.4 Call for and Selection of Proposals

The Panel has received strong representation on the desirability of changes to the existing approach to Call for Proposals (CFP). It has been argued that the existing procedure of fixed periodic CFPs can cause undue haste and difficulties for applicants. Indeed, this may represent an artificial constraint on the smooth development of sound project ideas and appropriate partnerships.

The Panel view with some concern the high rejection rate of proposals which reflects an imbalance between Programme resources and the demand for funding. With the increasing popularity of the Programme and the greatly improved standard of applications received, this problem will become ever more intractable.

Linked to the comments above, one of the major criticisms made to the Panel by Programme applicants concerns the procedures and administration of the application process. Despite substantial recent improvements on the part of the Commission, the process, many have argued, is long and complicated, and to complete can require the work of a specialist working full time for two months. In addition, the Panel feel that for some applicants there is a lack of clarity on the criteria used in the project selection process. There is an acknowledged learning curve effect which favours those with previous experience of developing a project proposal. Taken together, these criticisms and remarks to some extent explain the phenomena of an emerging 'insiders club' of successful applicants. While some organisations, particularly the large firms, have the in-house expertise and resources to develop a large number of proposals, with the added benefits of economies of scale and the chance to develop a successful formula, other organisations, particularly SMEs and universities, may be at a disadvantage. Such difficulties may equally apply to applicants from EFTA countries.

3.2.5 Administration of Projects

A source of quite widespread concern for successful project applicants is the delay which can occur in receiving funds from the Commission. One factor has been the lengthy process of contract negotiation and signing, and the Panel acknowledge the importance of the new initiatives in this area designed to simplify and speed up the process. There have, however, been instances, especially at the beginning of projects, where funds are late arriving, even

though all the formalities are complete. Such delays may cause severe difficulties for SMEs and sometimes universities.

A second issue concerns the Commission rules governing the allocation of project costs. The Panel understand that there may be legal barriers to overcome, but suggest that the Commission examine the feasibility of a change in the financial rules such that the Commission may be charged, after the signature of the contract, expenses incurred by the contractor at their own risk, during the time between the approval of the project and signing of the contract. Such an approach would speed up the starting of new projects, a factor which might be highly significant in fast moving technology areas.

On the monitoring of projects in progress, the Panel have received a range of evidence, some of it conflicting. Nevertheless, the Panel believe that on the whole the performance of project monitoring officers and relevant Commission supervision has been of an acceptable standard. In future, however, there should be more uniformity in the level at which officials will become involved in project activities, with greater autonomy provided to project co-ordinators. The Panel welcome the moves towards decentralisation and the contracting of external advisors for the monitoring role.

3.2.6 Role of Prime Contractors

The Panel have observed that many Prime Contractors feel they are not adequately compensated for the responsibilities of the role. In several cases firms indicated that they would rather not participate in a further project if it involved being Prime Contractor. While the Panel note that the number of proposals to BRITE/EURAM is increasing rapidly, it also feels concerned that some, perhaps key firms, may not wish in future to participate as Prime Contractors.

At the same time, non-Prime Contractors have complained to the Panel that Prime Contractors are too slow to pass along the funds when finally released by the Commission. The Panel feel that a clear recommendation should be inserted in the contracts for Prime Contractors, limiting the delay in the processing of payments.

Emerging Issues and Potential Problems

- There has been a large increase in the number of project applications received.
- The Commission is seeking to demonstrate that the Programme provides value for money.
- There is pressure from within the Commission and the Community as a whole to expand SME participation.
- The process of project evaluation tends to favour those projects which anticipate demonstrable results.
- Within Programme management there is evidence of increasing importance being attached to developing and exploiting existing fields of knowledge rather than work aimed at basic questions.
- The Programme's centre of gravity has moved in the direction of 'near market' research.
- It is likely that a potentially serious and damaging rejection rate problem will emerge if the Programme and its selection criteria remain in their present form.
- The partnership base will expand with the advent of the European Economic Area.

3.3 Emerging Issues and Potential Problems

3.3.1 The Changing Nature of BRITE/EURAM

There are two key areas in which BRITE/EURAM is changing; the shift towards 'near-market' research, and the very substantial increase in awareness and interest in the Programme. These two changes have profound implications for the future of BRITE/EURAM.

It may be useful to explore briefly the reasons for such changes. On the question of the shift towards 'near-market' research several factors would appear to be important:

- First, this change is perhaps primarily a response to the very considerable pressures placed on the Commission to demonstrate the usefulness and value of its research activities, as evidenced by the recommendations of the first BRITE evaluation report. The potential financial returns which such programmes can make is emphasised as one of the main justifications and thus, it is argued, there is an understandable tendency to favour projects in areas where more immediate and tangible benefits can be generated.
- Second, the very considerable efforts of the Commission to favour the participation of SMEs have also been a factor. It is acknowledged that typically such firms have few spare resources and are unable to undertake strategic research activities, with long lead times before benefits are obtained and with proportionally higher risks.
- Third, the increasing pressure on allocation of resources for universities and research centres, which has been a widespread phenomenon throughout Europe in recent years, may also have led these institutions to undertake more practical or 'near-market' research as they seek to attract financial support from industry.
- Fourth, there are simple mechanistic reasons which might explain this change. As the Programme has expanded and the quantity of proposals increased, there is evidence that the task of distinguishing between proposals has been increasingly difficult. In such circumstances there may be an understandable bias in favour of research where clear and unambiguous results are promised.
- Finally, the Panel note, but do not necessarily endorse, that the shift towards 'near-market' research is consistent with wider economic and political arguments which stress that there is already enough knowledge in existence, and that the task now is simply one of exploitation and re-distribution.

In explaining the growing interest in the Programme, as measured in the number of applications received, the Panel have identified a number of factors:

- The movement towards markets is in itself an important issue. If only strategic research were to be supported the number of eligible participants would be reduced.
- A separate issue has been the substantial and highly effective efforts of the Commission in a range of promotional activities. The Panel acknowledge the contribution of such things as well prepared briefing documentation, self-help videos and BRITE/EURAM conferences.

- There has emerged a corps of professional consultants across Europe providing assistance to companies with both information about EC programmes and in the preparation of proposals. Many larger companies have found it financially worthwhile to employ full time experts for this purpose. What may be of concern, though, is the manner in which such developments must inevitably be accompanied by a degree of institutionalisation of funding procedures where existing patterns of allocation are constantly reinforced in favour of the more professionally organised applicants.
- Added to this, are the now well organised efforts of national governments to secure 'juste retour' from the Programme. It is worth mentioning also that the creation of the EEA will bring a very substantial increase in the numbers of applications to research programmes.

Together, the shift towards markets and the increasing number of applications, have profound consequences which may necessitate a radical rethink of the rationale for, and implementation of, the Programme.

As demand increases, resources will be insufficient. One solution would be to increase the amount of money allocated to any such BRITE/EURAM Programme, although this would not address the central difficulty of how to manage the process. If the situation remained unchanged, a possible crisis in Programme management could be foreseen as officials were forced to deal with an 'avalanche' of proposals. This could become even more difficult when the Programme is opened to more countries. Especially as this might in itself reinforce the movement towards 'near market' research, thus bringing BRITE/EURAM more into competition with EUREKA than it is today.

It might be argued that some of the basic imbalances are due to a gradual change of focus on the Programme's mandate. The Programme may be trying to meet, simultaneously, a number of objectives which although individually valid, are to some extent incompatible. For example, the Programme:

- is aimed at fostering 'pre-competitive research', but faces understandable political pressure to show immediate economic results.
- is supporting SME projects to an increasing extent but it should not be too close to the market which, however, is the area of primary interest to the majority of SMEs.
- is supposed to contribute towards European cohesion, but it has to accommodate this with the mandate of selecting projects on technical and scientific merit alone.

Thus it seems there is an unavoidable case for a sharper clarification of objectives, which would establish a logical foundation for addressing the issues mentioned above.

3.3.2 Exploitation of Research Results by Non-EEA Organisations

Exploitation of research results by non EEA based (e.g. the US, Japan etc.) enterprises is an issue that needs to be addressed.

First of all, the Panel support the widely-held concept that scientific knowledge, derived from basic or fundamental research irrespective of the source of funds, needs to be exposed to critical peer review at an international level, if hypotheses are to be validated and frontiers

of knowledge advanced. In other words, there should be no barriers to the free flow of scientific knowledge.

However, when investments are made in applied research, particularly aimed at enhancing competitiveness, it is not unreasonable to expect that the benefits - at least until competition catches up - should accrue to the "investors". For BRITE/EURAM (and other similarly funded programmes) these "investors" are the enterprises and the Community tax-payers who shared the investment risks associated with the project(s) in the first place.

The issue, therefore, is how to avoid 'giving away' to non-sharers, the knowledge derived from BRITE/EURAM programmes. The Panel have received evidence that there are several instances where, for example, research results have been exploited by the US parent of European subsidiaries with no apparent commercial benefit to the original participants.

The key lies in the interpretation of 2 articles in the research contracts which define the relationships between controlling and subsidiary interests (art 14.2) and, their respective property rights (art. 15). In these articles there are apparently no restrictions in the transfer of technology, across national boundaries, between related companies. Even patenting may not limit this transfer if cost-free licensing is part of the internal relationship between parents and subsidiaries.

This is an aspect that the Commission should investigate. Particularly, in the light of prevailing US practice, where "arm's-length" transactions are the rule even for technology transfer, and a market value (demonstrable to the US tax authorities) has to be agreed and paid for any technology (patented or not) which is transferred out of the US. In cases where patenting is not possible, it may be worthwhile considering the practicality of some form of time delay before wide publication is given to the know-how generated by research findings. For example, non-disclosure for a specified time period, can be made part of the research contract and, a condition for Community-based recipients of detailed reports. While the Panel realise that policing such a system would impose a further burden on the Commission, the issue is of sufficient importance to warrant further study both from a legal and a commercial point of view.

3.3.3 Juste Retour

In the context of international research programmes, the concept of 'juste retour' at a national level is understood to mean receiving funds for project support which together, exactly match the amounts contributed to the Programme as a whole. The Panel believe, however, that if universally adopted for Community research, such a policy would be either unworkable or highly damaging. Even though all Member countries try to maintain the best return they can from Programme participation, a real Community will not be created if countries' overriding concern is the full financial return of their 'entrance fee' into the collaborative club.

3.3.4 Participation of EFTA Countries

For EFTA countries, only participation but no proposing/contracting role in BRITE, EURAM and BRITE/EURAM has thus far been open. Furthermore, their public funding has had to be provided by national governments, and not by the EC. This situation has naturally affected the rate of EFTA participation compared with EC Member countries. The Table in ANNEX 4.8 provides numerical data for 1989-91 on EFTA countries' participation.

The participation of the EFTA countries in BRITE/EURAM has grown with time, but at 2.7% of total EC funding on the average, is still quite low in relative terms. There are big differences between countries, the greatest participation being from Sweden and Switzerland.

The involvement of industries, especially that of SMEs, has been low. (The share of participating SMEs has been about 10% whereas in the Community the corresponding figure is roughly twice as high). The universities and research institutes in EFTA are familiar with international co-operation, whereas research programmes of the EC, such as BRITE/EURAM are still not sufficiently known and acknowledged by industry.

With the advent of EEA, the partners and officials in the EFTA-countries will get practically equal rights with their counterparts in the EC. Their participation in various committees and steering groups would increase the size of these bodies by 50% which is bound to affect their efficiency. Renewing and redefining organisational structures will most probably become a necessity, also in BRITE/EURAM.

Widening access to a significant scientific and technological base is to be seen as a strong positive potential for every partner in the EEA, and all appropriate measures should now be taken to promote co-operation.

For the most part, the experiences, expectations and recommendations of the EFTA actors are in line with those discussed elsewhere in this report. However, some points may be emphasised. They have been gathered from discussions and interviews with the group of R&D commissioners of the EFTA-countries in the EC, and with several BRITE/EURAM liaison officers and project participants in Finland, Norway, Sweden and Switzerland.

Observations and recommendations for effective integration of EFTA countries into Community programmes can be summarized as follows:

- The scientific and technological training and quality of R&D in most EFTA countries may be considered to be generally on par with that of the EC.
- Relevant information (e.g. project evaluation outcomes, changes in procedures, info-packages) should be provided on a more timely basis to the EFTA actors. Meetings of the national contact officers should be revitalised.
- More intensive and more systematic training, advertising and support from BRITE/EURAM management should be provided to ensure that the industries, institutes and universities in EFTA countries will become fully informed and aware of all the benefits, possibilities and service which BRITE/EURAM Programmes (including CRAFT, ARCADE etc.) and local offices, including PTAs, can offer.
- Rapid increase in the number of technical and scientific experts from the EFTA countries in the various BRITE/EURAM (project) evaluation groups is strongly recommended.
- It is recommended that the representatives of liaison offices from EFTA countries study the policies and practices of their peers EC countries, to benefit from their proven and successful experience with the BRITE/EURAM Programme.

In conclusion, the EFTA countries expect that with the expansion of Research Technology Development (RTD) networks by way of the EEA in the near future, the funding of their research through BRITE/EURAM and other EC programmes, will increase to correspond more closely with their share of GNP. They also feel that, besides new and "exotic" fields of technology and material sciences, pre-competitive research should be supported also in traditionally strong areas of industry and technology.

A report by NUTEK, Sweden on BRITE/EURAM stresses that 'the level of competence, earlier contacts and collaboration with other organisations in the projects were factors of vital importance'.

Key elements of the report are presented in ANNEX 4.9.

4. ANNEXES

- 4.1 Terms of Reference**
- 4.2 Panel Questionnaire Survey**
- 4.3 Summary of BETA Consultant**
- 4.4 List of People Consulted**
- 4.5 List of Documents Used**
- 4.6 Definitions of Research and Subsidiarity**
- 4.7 Implementation of Recommendations from previous Evaluations**
- 4.8 Participation of EFTA Countries in BRITE/EURAM**
- 4.9 Key Elements from NUTEK Report Executive Summary**
- 4.10 Glossary of Terms**

TERMS OF REFERENCE

1. The Panel is composed of persons who are appointed by the Director General, DG XII, as individuals and not as representatives of particular organizations or countries. Their views in no way commit their employing organizations.
2. With a view on the basic principles stipulated in the European Single Act and according to the plan of action relating to the evaluation of the Community R&D activities³, the Panel is to assess the following :
 - the quality and practical relevance of the results including commercial development and exploitation, and possible spin-offs;
 - the scientific and technical achievements;
 - the programme's contribution to the social and economic development of the Community;
 - the benefits resulting from the implementation of the programme at the Community level (Community added value);
 - the management of the programme.
3. In dealing with the evaluation, the Panel will take into account the following guidance given in the Council Decision⁴ :

"Programme evaluation objectives and criteria"

The results against which the programme should be evaluated must reflect its objectives and the wider objectives of the framework programme.

1. *As the principal objective is to enhance the competitive position of the Community's manufacturing industries, the evaluation should determine :*
 - *the extent to which the projects were selected against credible and measurable industrial criteria;*
 - *the extent to which substantial product or process development has resulted from the work supported.*
2. *A further objective is to encourage trans-frontier collaboration in strategic industrial research. The evaluation should determine :*
 - *to what extent, before and after project completion, there were continuing links between partners for research, development, manufacturing, marketing or staff training.*

³ OJ n° C14, 20.01.87 endorsed by the Council Dec. 9 1986 (OJ C2, 06.01.1987).

⁴ Annex III of the Council Decision; OJ n° L98, 11.04.89, p. 27.

3. *A further programme objective is to encourage transfer of technology across Community frontiers and between sectors, particularly those with a high predominance of SME's. The evaluation should determine :*
 - *the extent to which SMEs have exploited technologies and new materials arising from successfully completed projects;*
 - *the extent to which accomplishments are protected by patent action or are disseminated to raise awareness in the European research and technology Community.*
4. *In the wider context of the framework programme, the evaluation shall be conducted in the light of all the selection criteria set out in Annex III of the framework programme set out in Decision 87/516/Euratom, EEC, which include that of contributing to the strengthening of the economic and social cohesion of the Community.*

This evaluation will be undertaken by independent evaluators."

The Panel will also include in its work as an input the numerous studies already contracted by various Commission services concerning BRITE/EURAM. A synthesis of the available material could be provided either by private consultants, or by a special ad-hoc technical group whose members would then also receive a contract from the Commission for the duration of the evaluation.

It is moreover expected that the Panel does review how the recommendations from the previous evaluation Panels have been taken into account by the managers in the implementation of the successive programmes (B/E and IMT).

4. The Panel shall prepare a draft report in English in September 1992 and a final report designed for publication before the end of the year. This final report will contain the following :
 - a short introduction including a summary of the procedures followed by the Panel and its membership (with a brief CV of the evaluators);
 - an executive summary (which the Commission will translate into all Community languages);
 - the main report which should be concise and concentrates on the main findings and recommendations with short comments added;
 - any annexes that the Panel considered as a useful complement for a better understanding of its conclusions and recommendations.

The Panel may also prepare a confidential annex for the Director General of DG XII if it feels that it is desirable and necessary.

5. Subject to the prior approval of the Commission the Panel members may travel within the Commission to interview persons about the programmes and to see work in progress.

PANEL QUESTIONNAIRE SURVEY

1. PURPOSE

A short questionnaire was prepared by the Panel and sent to companies participating in the Programme for obtaining largely qualitative information on the following:

- the preparation of proposals
- company strategy with respect to EC projects
- the impact of EC projects on firms

2. SAMPLE

The questionnaire was sent to a number of contractors of on-going projects taken from 5 Member States (Belgium, France, Germany, Italy, the Netherlands) and from several EFTA countries.

3. RESULTS

The following is a summary of the main questions (in italics) and a synthesis of the corresponding responses.

Question 1.1

How did you find out about BRIT/ EURAM programmes? When did you first learn about such programmes?

- Business partners and EC publications are the most cited sources of awareness of the Programme, particularly in the case of Germany. Conferences are the least cited.

Question 1.2

On the first occasion of your participation how "user-friendly" did you find the EEC procedure?

- One fifth of respondents found the Programme acceptable in terms of its user friendliness. Only a very small number of respondents found the Programme 'very user friendly'.

Question 1.3

Is this the first publicly funded project you have participated in?

- Around 85% of respondents had already participated in publicly funded projects.

Question 1.4

The time taken for the various phases - (initial acceptance, contract negotiations, start-date, availability of EG funds) - are they acceptable? If not, why not?

- There was a roughly equal split between those respondents which were satisfied and those not satisfied for the time taken in processing the various phases of developing a proposal.

Question 1.5

Did finding trans-national partners and achieving a consensus pose problems (ie. technical, cultural, language, other)? If so, what sort of problems?

- Approximately 25% of respondents had found it difficult to find a project partner, particularly in the case of participants coming from EFTA countries.

Question 2.1

Do you have an explicit (documented) technology strategy for your business? If not, why did you choose to participate in this project?

- More than 90% of the respondents claimed to follow an explicit documented technology strategy for their business.

Question 2.2

Have you defined what benefits you expect to derive from this project?

- Most respondents expected to obtain benefits from the project in terms of technical results. The least expected cited benefit was market share.

Question 2.3

How much did you spend as a percentage of turnover on R&D annually prior to this project?

- R&D intensity varies in general from more than 10% to less than 2%. A few purely research based companies claimed rates of 30% to 100%.

Question 2.4

If your project had not been accepted in BRITE/EURAM would you have gone ahead with this project with your partners?

- More than 70% of respondents would not have gone ahead with the project without EC funding.

Question 2.5

In view of your interest in R&D as a tool for competitiveness, would you continue R&D efforts whether funded or not?

- Virtually all respondents claimed that they would continue R&D efforts per se, irrespective of whether EC funding was received.

Question 2.6

Are the Brussels prescribed procedures for progress reporting, monitoring, etc., unduly onerous? If so can you suggest simplification?

- Nearly all respondents found the project monitoring and reporting procedures to be acceptable.

Question 2.7

Have you achieved (or are "on track" towards) the technical targets for the project?

- Most companies claimed to have reached or are in the process of reaching their project technical targets.

Question 2.8

Will you be patenting any of the findings?

- Only around half of the respondents intend to patent project findings, strong responses coming from Italy and Germany.

Question 3.1

What benefits do you see from co-operation with academic institutions (if any on this project) in your project?

- Around 30% of companies claimed to have derived positive effects from the participation of universities in projects.

Question 3.2

Have you acquired any new management skills from your partners on this project?

- Few companies reported that any management skills were obtained from Programme participation.

Question 3.3

Has collaborating trans-nationally increased your market awareness beyond your traditional markets?

- Not quite 30% of respondents found that Programme participation had provided market awareness.

Question 3.4

Has collaborating technically (in BRITE/EURAM) opened up possibilities for business joint-ventures with one or more of your current partners?

- Few companies (less than 15%) claimed to have found opportunities for new joint ventures with project partners.

SUMMARY OF THE REPORT BY BETA CONSULTANT

This summary offers the conclusions from a sample of 50 projects containing 176 firms and organisations, involved in a EURAM, a BRITE or a BRITE-EURAM project.

The methodology is described in the final report⁵ (January 1993), but a few brief comments may be helpful. An R&D programme can generate, through contract money, direct economic effects and indirect effects. It should be stressed that this contract money cannot be taken as an investment according to the classical definition, but more as seed money for the generation of new sales, of increases of productivity (decreases of cost) or of a consolidation in the competitiveness by means of patents, new technologies, etc.

In order to have an homogeneous system of measurement, the variation of the added value⁶ was used to evaluate, in ECU, the extent of the effects. The only difficulty with this method was to identify, in certain firms, the figures for the added value. It is believed that these are the only cases where 'over' evaluation may have been introduced in the study. In all the other cases, the large majority, there was a strong bias in favour of underestimates and it is stressed that the figures which are shown in the tables represent the bottom limit of the total economic effect generated by the BRITE/EURAM Programmes.

Finally, the distinction between direct and indirect effects was, for most of the persons interviewed, straightforward. An effect is 'direct' if it is included in the object of the project; "you receive money to build an engine, and you build it and sell it". The indirect effects are split into four families: technological (Product transfer 11, Process transfer 12, Service transfer 13. Patent without marketed products 14); commercial (Network 21, Reputation 22); organisation and method (Management 31, Organisation 32, Method 33); human factor (increase of the competencies of the firm through the people who have worked on the project 41, training of new employees 42). The numbers 11 to 42 refer to Table 3 of this Annex.

The sample of 176 organisations has received 39,371,641 ECUS (1991) from the EC. It was possible to measure about 611 cases of effect out of about 900 identified. An average of 1 to 2 cases per firm could not be evaluated. This further emphasises the bias towards under-evaluation already referred to. In the tables: 'realised' means encashed by the firms before 1.1.1992; 'anticipated' means already on the order book for the 1992-93; 'future' means expected for the years 1994-'95 but affected by a probability factor (almost always higher than 50%), included in the calculation of the value of the effect (an effect of 100 ECUS with a factor 80% is accounted as 80 ECUS).

The figures in Table 3 in this Annex show that the direct effects give rather important ratios of invested money versus returned effects: 10.5 for 'realised' and 'expected', 13.3 if we add future effects, which means that the precept that all projects are pre-competitive in nature

⁵ "Economic evaluation of the effects of the BRITE/EURAM programmes on the European Industry" Research Evaluation - Report No. 53a / EUR FR/EN. This report was edited as a separate annex to the present report.

⁶ Added value = wages + gross benefit + depreciation = sales - intermediate consumptions (purchase of components, raw materials ...)

is arguable. For most of the interviewed firms the precept is regarded as irrelevant. For example firms were likely to report:

‘How can you imagine that we shall invest for research that we shall not apply’.

39 participants from the sample have generated direct economic effects. In addition many projects are dealing with process operations involved directly with production, and it is obvious that being so close to the market, they will generate direct effects. Many other points can be raised about this concept of pre-competitiveness which is discussed in the final report of the study.

The indirect effects generated by the full sample yield the two ratios 3.4 and 4.1. The spread of these effects across the different categories shows that almost 50% deal with technological transfer (mainly process transfer followed by product transfer); 27% with increases of competence or training; and about 11% with commercial or organisation and method effects.

The three following tables would divide the sample into big firms (75). SME (38) and research organisations (university, cooperative research organisation, public research centre (63). These results are condensed in the 3 first lines of Table 2, making it possible to compare easily the result for each group depending on the selection criteria. Most of the direct effects are generated by big firms, which also produce the greatest indirect effects (mainly technological transfer). SMEs are far less successful, even if the aim of the BRITE/EURAM programmes to introduce SMEs to a European Network is largely reached, as shown by the very large network effect measured by the commercial indirect effects. Surprisingly, the third category, universities and research organisations, where economic effects were not really expected, was able to generate about 2.5 ECU for 1 ECU injected by the EEC. In this case added value is almost 100% (since most of their contract money is spent in wages).

In group II of Table 2 are compared the performances of prime and non-prime partners. This study was interesting because most of the preceding quantitative evaluations (Van Dijk, April 1992) were mainly made through analysis of the primes. There are no important differences between the two categories if one excludes a single very large direct effect, except that non-primes generated more indirect effects, and that non-primes need a longer lead time to generate both direct and indirect effects (the relative amount of ‘future’ is higher in non-prime than in prime).

In group III of Table 2, important new information is disclosed. The projects have been divided in two sets, consortia containing or not containing a fundamental research partner. The difference is very significant: a factor of X3 for the direct effects and X2 for the indirect in favour of the group containing a fundamental research partner. The final report examines reasons for these differences.

To understand the findings presented in group IV of Table 2, it is necessary to explain the meanings of "AMONT" and "AVAL". A notional scale from 0 to 100 has been drawn, representing the nature of the research work performed in the BRITE/EURAM project by the firm. The firm is asked during the interview to locate its position on the scale. Then the sample is divided into two groups, above 59 (AMONT or UPSTREAM) and below 59 (AVAL or DOWNSTREAM). As expected AVAL generates more direct effects than AMONT and vice-versa for the indirect effects.

The evaluation of the scientific or technological success of a project was made by the study team. A project was considered a success when the explicit technological aims of the project were reached. A partial success of a partner does not mean a project success, as also the failure of a member of a consortium does not mean the failure of the whole project. No economic measures were used to calculate success or failure. 50 projects are divided into 38 successes and 12 failures, thereby giving a 74% success rate (72% in the Van Dijk study).

If, as can be seen in groups V of Table 2, the technologically successful projects generated most of the direct effects and to a large extent more indirect effects than the failures, it is interesting to note that failures generated enough effects (mainly increases in competence, reorganisation and technological transfer) to compensate for the loss which could be considered by the "payer(s)". It should be stressed that 21 firms and organisations (12% of the total sample) did not generate effects at all, or even obtain negative effects. More analysis of this issue is included in the final report.

In group VI of Table 2 the performances of the EURAM (7 projects) are compared. BRITE (35 projects) and BRITE-EURAM (8 projects). The older programme (EURAM), organised on a very pre-competitive level, did not generate any direct effects, while generating the highest amount of indirect effect (enough time has elapsed to obtain useful results). The youngest programme (BRITE-EURAM) is generating a very high amount of direct effects in a very short time (perhaps because of a decreased emphasis on pre-competitiveness) and a smaller amount of indirect effects (too little time has elapsed to obtain the full effect).

Finally, group VII of Table 2 shows the results on a country by country basis; for confidential reasons "small" countries with not enough representation in the sample are aggregated in two sets: DK+B+SF+CH+E+L+N and GR+P+IRL. The following table summarises the main results following a double classification by direct or indirect effects.

Table 1

Rank	Country	Score (Indirect)	Country	Score (Direct)
1	UK	8.1	UK	49.5
2	IRL+GR+P	5.2	D	22.3
3	NL	5.1	F	8.2
4	D	4.3	I	2.3
5	F	3.0	NL	2.0
6	I	2.3	DK+B+S+F+. CH+E	0.5
7	DK+B+SF+CH+. E+L+N	2.2	IRL+GR+P	0.2

Many other parameters are examined in the final report : effect per area, amount of contract money, R&D intensity, nature of the firm (producer, user, tester etc...), lag time, duration and age of the projects, etc. In addition crossed parameters are also used to try to understand the mechanism(s) of innovation in the European organisations which have contracted in B/E programmes.

Table 2

	Selection criteria	Ratios of effects to EC Investment			
		Direct Effects		Indirect Effects	
		realised + anticipated	Realised + anticip+future	realised + anticipated	Realised + ant.+future
I	Big	20.0	25.3	4.4	5.5
	SME	1.6	2.0	2.1	2.6
	Universities	0.1	0.1	2.5	2.6
II	Prime	15.8	19.4	2.5	2.6
	Non-Prime	6.6	8.7	4.0	5.2
III	With fund. research org.	18.1	20.4	4.5	4.7
	Without fund. research org.	6.7	10.4	2.7	4.0
IV	Up-stream (AMONT)	5.8	8.5	3.8	5.0
	Down-stream (AVAL)	18.1	21.0	2.7	2.8
V	Technological success	13.5	17.1	3.9	4.8
	Technological failure	0.6	0.6	1.6	1.7
VI	EURAM	0.0	0.0	4.5	5.6
	BRITE	5.0	7.2	3.3	3.9
	BRITE-EURAM1	44.3	51.6	3.2	4.7
VII	UK	45.6	49.5	6.6	8.1
	NL	2.0	2.0	5.1	5.1
	IRL+GR+P	0.0	0.2	3.0	5.2
	F	1.1	8.2	2.4	3.0
	I	1.7	2.3	2.2	2.3
	D	18.0	22.3	2.7	4.3
	B+CH+DK+SF+E+L+N	0.2	0.5	2.2	2.2

Table 3(All amounts are in ECU-1991)

Total CEC: 39 371 641	Number of firms: 176
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Direct Effect - ED - Number of cases:632		Ratios ED/TotalCEC
Realised	68 769 342	
Anticipated	344 508 821	
Total 1	413 278 163	10.50
Future	109 261 449	
TOTAL	522 539 612	13.27

Indirect Effects - EI -		Ratios EI/Total CEC
Realised	105 599 929	
Anticipated	26 557 830	
Total 1	132 157 759	3.36
Future	28 665 219	
TOTAL	160 822 978	4.08

<i>Indirect effects: detailed distribution.</i>				
<u>Technology (transfers)</u>	76 527 854. Ecus (47.6%)	1.1-products	33 249 047. Ecus	43.4%
		1.2-process	40 855 876. Ecus	53.4%
		1.3-service	1 118 051. Ecus	1.5%
		1.4-patents	1 304 880. Ecus	1.7%
<u>Business</u>	16 513 563. ecus (10.3%)	2.1-network	8 531 938. Ecus	51.7%
		2.2-reputation	7 981 625. Ecus	48.3%
<u>Organisation/Methods</u>	18 595 818. Ecus (11.6%)	3.1-management	1 179 807. Ecus	6.3%
		3.2-organisation	15 915 639. Ecus	85.6%
		3.3-methods	1 500 372. Ecus	8.1%
<u>Workmanship</u>	49 185 743. Ecus (30.6%)	4.1-skill	42 528 192. Ecus	86.5%
		4.2-training	6 657 551. Ecus	13.5%

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LIST OF DOCUMENTS USED

Nota bene: The documents marked with an “*” have been presented to the panel by their authors.

CE(D)-B/E.1	Council decision: Framework Programme (1987-1991)
CE(D)-B/E.2	Council decision: BRITE/EURAM (1989-1992)
CE(D)-B/E.3*	Plan of action relating to evaluation
CE(D)-B/E.6	Evaluation of the 1st BRITE programme
CE(D)-B/E.7	Evaluation of the EURAM programme
CE(D)-B/E.8	Synopses of B/E projects
CE(D)-B/E.10*	Evaluation of the R&D programmes of the EC L. Massimo (1.10.1991)
CE(D)-B/E.11*	Bossard Consultant: B/E progress report 1991 *support to SMEs
CE(D)-B/E.12	Review of the pilot phase of the European cooperative research action for technology by W.A. de Jong and W. A. Koumans (4.12.1990)
CE(D)-B/E.13	Feasibility Awards Scheme (Evaluation study) by Yellow Window Consultants
CE(D)-B/E.14*	Key factors for Industrial Partnership in EC- programmes by H. Linne (Monitor/Spear-Sept91)
CE(D)-B/E.15	L'évaluation des effets économiques des programmes de Recherche de la Communauté Européenne by J. Toulemonde (Monitor/Spear-Oct 90)
CE(D)-B/E.16*	Economical Evaluation of the effects of the B/E Programme on Industry, Université Louis Pasteur - B.E.T.A. Strasbourg
CE(D)-B/E.17	EC Research Funding - 2nd edition- A guide for applicants (May 1990)
CE(1)-B/E.7*	Evaluation Study: First Finished Projects - BRITE/EURAM-VALUE-Synthesis Report (April 92)
CE(1)-B/E.10	Information package
CE(1)-B/E.11	Guidelines for the preparation of B/E-proposals (+video-cassette)
CE(1)-B/E.12	Guidelines for project selection
CE(1)-B/E.13	4 examples of consensus reports
CE(1)-B/E.14	Guidelines for the negotiation of projects
CE(1)-B/E.15	B/E workshop on project coordination
CE(1)-B/E.16	B/E workshop for Project technical auditors
CE(1)-B/E.17	Expressions of interest 1991-C.f.P)
CE(1)-B/E.18	Information package 1991
CE(1)-B/E.19	Guidelines on 'How to prepare a proposal'
CE(1)-B/E.20	Guidelines for Evaluators (selection proc.)
CE(1)-B/E.21	A universe of possibilities (Public Information)
CE(2)-B/E.8	'Japanese Technological Innovation Strategy Recent Trends' by R. Bowonder & T. Miyake in Technology Analysis & Strategic Management 1-92
CE(2)-B/E.9	Checklist for the negotiation & drafting of a EUREKA Project
CE(2)-B/E.10	Espnrit Information Package
CE(2)-B/E.11	Evaluation of Espnrit proposals (EVAL'91)

CE(2)-B/E.13* Evaluation of the Impact of EC Research Prog. upon the Competitiveness of European Industry - Concepts and Approaches (PREST/Univ. of Manchester)

CE(3)-B/E.4 List of Acronyms (CORDIS)

CE(3)B/E.8 List of documents collected in Sevilla

a) opening speeches:

Bienvenida del Comité Organizador (SP) by Mr García Arroyo

Intervention Inaugurale (FR) de F.M. Pandolfi, Vice-President de la Commission

Discours du Président en exercice du Conseil (FR), du ministère de la Recherche portugais, Mr.L. Valente de Oliveira

Schema d'éléments pour le discours (FR) de M. C. Desama, Président de la CERT

b) Other papers

Transparencies (PO) from F J Vara

The future of R&D in an International Context (EN) by C. Weyrich, Siemens AG-Munich

Discussion Paper for the three Strategic Workshop (EN).

Programme of the Conference and Keynote Speeches (EN).

CE(3)-B/E.10* Beta Interim Report

CE(4)-B/E.10 Evaluation of the "2d FP: CAN report to CREST

CE(5)-B/E.10 US-DOC: NIST-Advanced technology program (Information Package 1992)

'The Japan that can say NO' by Shintaro ISHIHARA/Simon & Schuster 1991

CE(5)-B/E.10 NIST-Advanced Technology Program

CE(5)-B/E.19 IRDAC-Strategy papers of future community R&D policy

CE(6)-B/E.4 Prop. for Supplementary Financing of the third FP COM (92) 309 Final/15 July 1992

CE(6)-B/E.5 Final version of IRDAC-documents issued June 92:

- a) Opinion on the role of the EC in the field of strategic fundamental research;
- b) Opinion of the establishment of a European Pre-normative Research Association;
- c) Memorandum on lengthy decision making procedures;
- d) Opinion on priorities for industrial technologies.

CE(6)-B/E.6 ICT Review Board Report (Dekker Report)

- CE(7)-B/E.4 **FEICRO's position concerning CRAFT**
- CE(8)-B/E.3 **Excerpt from FAST report 'Les Religions face a la Science et la Technologie'**
- CE(8)-B/E.6 **Previous panels recommendations (Andreta). Comments.**
- CE(8)-B/E.7 **Research after Maastricht (Bulletin SEC (92) 682 final.**

DEFINITIONS OF RESEARCH AND SUBSIDIARITY

In the course of its work the Panel have encountered a number of statements, classifications and standards regarding the governing of Community research and broad policy principles. While these are to some extent generally understood, the Panel provide some definitions of its own definitions both for the benefit of the reader of this report and to illustrate the basis upon which recommendations were formed.

1. Fundamental or Knowledge Oriented Basic Research is the pursuit of fundamentally new knowledge involving theoretical and experimental work to achieve new or better understanding of the laws of science and engineering. Such research is curiosity-driven and provides the underpinning or "seed corn" for most applied research.

2. Strategic or Mission Oriented Basic Research is that type of research where practical applications cannot be specified clearly but which is undertaken because it is considered that:

- i) long term objectives are identified and practical applications are seen to be feasible
- ii) accumulation of know-how in the field will serve a number of diverse markets.

3. Applied Research involves investigative and experimental work which is directed primarily towards the attainment of clearly specified objectives which will result in the creation of new (or improved) products, processes or systems. Such regimes normally conclude with the creation of a prototype. Such work which focuses on upscaling and performance improvement should be regarded as "product" development rather than research.

4. The term "Generic Technologies" is frequently used to describe the outcome of research that is not "close to market". Whilst this comment is generally valid the distinction can be misleading; closeness in time, can vary enormously depending on the "product" researched. **Generic Technologies** can, therefore, more correctly be defined as having potential applications which are likely to be of wide and multi-sectoral benefit, although precise applications could not be clearly specified when the work commences.

5. Subsidiarity:

The first law of subsidiarity is, that each job or task, to be done within the organisation has to be carried out at the lowest level of the hierarchy capable of undertaking such a task.

The second law of subsidiarity, is that the higher levels of the hierarchy have to support (but not to control) the members of the lower level in fulfilling their jobs.

IMPLEMENTATION OF RECOMMENDATIONS FROM PREVIOUS EVALUATION

1. RECOMMENDATIONS	2. POLICY	3 IMPLEMENTATION	4. VALORISATION
1. WEAKNESS IN APPLICATION OF TECHNOLOGIES		RULES FOR PARTICIPATION	COORDINATION WITH OTHER PROGRAMME VALUE
2. CLEAR STRATEGY FOR TRANSFER OF TECHNOLOGIES		RULES FOR PARTICIPANTS COORDINATORS AND CRITERIA	COORDINATION EVALUATION OF RESULTS
3. MORE MARKET ORIENTED/ECONOMIC IMPACT RESULTS VALORISATION		CRITERIA FOR PARTICIPANTS AND FOR SELECTION	MORE RESULTS EXPLOITATION ORIENTED
4. FUSION B/E	TECHNICAL AREAS/OBJECTIVES		
5. DISSEMINATION OF INFORMATION & PUBLICITY		INFOPACK B-E DAYS AFTER PUBLICATION	FINISHED PROJECTS EVALUATION RESULTS VIDEO CONFERENCES B-E
6. NO DEMONSTRATION PROJECT	COUNCIL DECISION	CONDITION AND CRITERIA FOR PARTICIPATION IN SELECTION	
2. MODALITIES			
1. REINFORCING SME PARTICIPATION	FEASIBILITY AWARDS AND CRAFT PILOT ACTIONS	CRITERIA FOR PARTICIPATION AND SELECTION	
2. CALL FOR PROPOSALS ON ANNUAL BASIS	WORKPROGRAMME	PLANIFICATION FOR BETTER MANAGEMENT	
3. CLEARER DEFINITION OF PRE-COMPETITIVE RESULTS		CRITERIA FOR PARTICIPATION AND SELECTION	

3. MANAGEMENT			
1. SEPARATION OF RESPONSIBILITY FOR STRATEGIC AND MANAGEMENT		C1. RESPONSIBLE FOR POLICY C2 RESPONSIBLE FOR MANAGEMENT	
2. IMPROVEMENT SELECTION PROCEDURES		CRITERIA AND GUIDELINES FOR SELECTION	
3. SMALL TEAM	DECENTRALISATION	TECHNICAL MONITORING	
SIMPLIFICATION CONTRACT		NEW PROCEDURES FOR NEGOTIATION AND REORGANISATION	

PARTICIPATION OF EFTA COUNTRIES IN BRITE/EURAM

	B/E 1st c. 1989	B/E 2nd c. 1990	B/E II 1st c. 1991	Total
	# MECU	# MECU	# MECU	# MECU
Switzerland				
Total cost; B/E	2.4	2.8	6.7	11.9
Total cost; I+R+U	2.3	3.1	8.5	13.9
Number of SME:s	0	2	4	6
Number of Industry	2	7	9	18
Number of U+R:s	5	4	9	18
Sweden				
Total cost; B/E	1.4	1.5	9.2	12.1
Total cost; I+R+U	1.4	1.4	10.6	13.4
Number of SME:s	0	0	2	2
Number of Industry	2	3	14	19
Number of U+R:s	6	5	22	33
Austria				
Total cost; B/E	2.6	0.7	4.1	7.4
Total cost; I+R+U	2.6	0.7	4.6	7.9
Number of SME:s	0	0	3	3
Number of Industry	2	1	8	11
Number of U+R:s	2	1	5	8
Finland				
Total cost; B/E	4.3	0.4	1.1	5.8

Total cost; I+R+U	4.6	0.5	1.5	6.6
Number of SME:s	2	0	1	3
Number of Industry	6	0	2	8
Number of U+R:s	7	2	2	11
Norway				
Total cost; B/E	1.8	1.0	2.0	4.8
Total cost; I+R+U	2.2	1.0	2.5	5.7
Number of SME:s	2	0	1	3
Number of Industry	3	3	2	8
Number of U+R:s	1	1	2	4
Iceland				
Total cost; B/E	0	0.4	0	0.4
Total cost; I+R+U	0	0.4	0	0.4
Number of SME:s	0	1	0	1
Number of Industry	0	1	0	1
Number of U+R:s	0	1	0	1
EFTA TOTAL				
Total Cost; B/E	12.5	6.8	23.1	42.4
Total cost; I+R+U	13.1	7.1	27.7	47.9
Number of SME:s	4	3	11	18
Number of Industry	15	15	35	65
Number of U+R:s	21	14	40	75

EC TOTAL				
Total cost; B/E	430	403	722	1555
Total cost; I+R+U				
Number of SMEs	206	240	338	784
Number of Industry	581	550	893	2024
Number of U+R:s	460	404	559	1423

I = Industry

R = Research Institute

U = University

KEY ELEMENTS FROM NUTEK REPORT EXECUTIVE SUMMARY

"The level of competence, earlier contacts and collaboration with other organisations in the projects were factors of vital importance and also determined the Swedish participation in BRITE/EURAM. The reasons or motives for Swedish organisations to participate in BRITE/EURAM reflect a variety of different aspects, but the motives of highest importance were sharing the costs and the risk in large expensive R&D projects, gathering competence which was not available within their own organisation and establishing new contacts with future collaboration partners.

All Swedish participants consider the BRITE/EURAM program as a positive influence for European R&D collaboration. In some cases the R&D co-operation within Europe increases at the expense of collaboration with other countries as Japan and the USA".

"Swedish participants are in general inexperienced in terms of knowledge of how the EC administrative system works. They have little knowledge of how to apply, to whom they can turn with questions and most important of all, they are at this moment (with a few exceptions) standing outside the existing networks created within the different EC programs. This is a disadvantage for Swedish organisations and organisations from other EFTA countries. It is of great importance for Swedish universities, institutes and companies to increase their participation in the EC R&D programs as soon as possible. Lack of competence and low participation in the existing networks in the BRITE/EURAM program can lead to only a minor Swedish involvement in future projects".

"Potential participants need different kinds of help, from NUTEK (Swedish National Board for Industrial and Technical Development) and other governmental organisations to increase their participation. This is particularly important for SMEs and universities because of their lack of resources for gathering information. The main needs are:

- extended information
- initial financial support
- legal advice
- assistance with formulating a correct application".

GLOSSARY OF TERMS

AiF	Arbeitsgemeinschaften industrieller Forschungsvereinigungen
BIG	Big companies > 500 employees
BMFT	Bundesministerium für Forschung und Technologie
BRITE	Basic Research in Industrial Technologies for Europe
CAN	Committee of an Advisory Nature
CEAM	Concerted European Action on Magnets
CIM	Computer integrated Manufacturing
CNRS	Centre Nationale de la Recherche Scientifique
CRAFT	Cooperative Research Action for Technology
CREST	Scientific and Technical Research Committee
CSIRO	Australian Scientific and Industrial Research Organisation
DTI	Department of Trade and Industry (UK)
EDU	Educational establishments
EEA	European Economic Area
EMRS	European Materials Research Society
EURAM	European Research on Advanced Materials
IRDAC	Industrial Research and Development Advisory Committee
LFR	Less Favoured Regions
MECU	Million ECU
OTH	Other establishments
PTA	Project Technical Advisors
PREST	Programme of Policy Research in Engineering Science and Technology
REC	Research Establishments
RTD	Research and Technology Development
RTP	Research and Technology Policy (DTI, London)
SME	Small and Medium-sized Enterprise (< 500 employees)
VALUE	Valorisation and Utilisation for Europe

Commission of the European Communities

**EUR 15070 – Evaluation of the BRITE/EURAM Programme
(1988-1992) - (areas 1 to 4).**

*O. Schiele, A. Airaghi, F. Bloyaert, J.C. Jarillo, A. Kärnä, M. Lavalou, L. Paul,
L. Weaver.*

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This evaluation report on the BRITE/EURAM Programme (areas 1 to 4) fits into the general framework of the Commission's evaluation policy (submitted in the form of a Plan of Action to the Council, O.J. C14, 20.01.87). The report is the work of a Panel of independent external experts.

The report comprises four parts, namely:

- A short introduction with the composition of the Panel of experts, its terms of reference and the working procedure followed.
- An executive summary (available in all nine official community languages) which includes some statistics, the main findings, conclusions and recommendations of the Panel.
- The main body of the report.
- Annexes which provide terms of reference of the Evaluation Panel and various complementary information used by the experts.

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